

The Trafalgar School at Downton

Knowledge Organiser

Year 9: Terms 1 and 2

2022/2023



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

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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?

New GCSE specifications mean that students have 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.





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!

Learning the knowledge in the organiser

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.

The best method to use when you are working on memorising things from your Knowledge Organiser is to self-quiz, using the Trafalgar Revision Method, below:

Really read and understand	Read the information 3 or more times and ask for help in understanding
Reduce the knowledge	Rewrite the information, making revision cards or mind maps
Remember	Reread and test that you can remember
Repeat	Repeat the process above until you can recall the information quickly and accurately. Only at this point have you acquired the knowledge!

How do I remember? Activating your memory

Students often say “I can’t remember” and the reason for this is that the information they are trying to remember and learn is not yet in their **long term memory**.

Your long term memory gets activated by repetition over a number of days. And so repeat the following process to embed knowledge in your long term memory.

Look	Read the information 3 or more times 
Cover	Now cover what you have just read up
Write	Now try and write down the information you have just read 
Check	Did you write down the information correctly? If you made mistakes, correct them with a different colour pen and repeat daily until you “just know it”.



Language Methods to Practise in your Fortnightly Writing Challenge



- alliteration:
- anecdote:
- antithesis:
- chiasmus:
- emotive language:
- experts:
- extended metaphor:
- foreshadowing:
- imperative verbs:
- metaphor:
- modal verb:
- pathetic fallacy:
- sensory description:
- simile:
- statistics:
- superlative:
- onomatopoeia:
- personification:
- repetition:

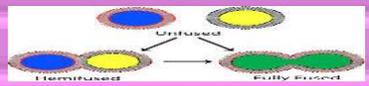
You'll never put a better bit of butter on your knife



Talking to his children about the dangers of running in the house, a dad might include an anecdote about falling in his home as a boy and breaking his arm.



That's one small step for man, but a giant leap for mankind.



'Let us never negotiate out of fear, but let us never fear to negotiate.'

Think about the poor, defenceless animals that suffer due to our rubbish!



'Group chat can often be a source of upset,' warned psychologist Dr Linda Pappadopolis.

The Road Not Taken, by Robert Frost, is one of the most famous examples of extended metaphor; in the poem, he compares life's journey to a forest path.

The witches in Macbeth are used to foreshadow that Macbeth is not innocent: 'Fair is foul and foul is fair', a line he echoes in his first appearance when he says 'so foul and fair a day I have not seen'.



Chill out! Do as I say! Don't eat the daisies! Please be quiet! Be quiet!



'The sun in the west was a drop of burning gold that slid near and nearer the sill of the world.'

You must be home by midnight. You could be tired if you're any later. E.g. mustn't, can, might, shouldn't, may, will etc.

In *Macbeth*, the night the King is murdered 'has been unruly ... in th' air, strange screams of death ... Some say the Earth was feverous and did shake.'



Wind swirled around the beach house, whistling loudly. He felt the snowflakes melting on his skin, their liquid trickling down his neck, cold, wet, seeping into his clothes.

Without warning, Lionel gave one of his tight little sneezes: it sounded like a bullet fired through a silencer.

You only have a 20% chance of surviving a 60mph crash if you don't wear a seatbelt!

This is the worst day of my life but at least we're in the finest café in London.

The dog knocked over the vase with a crash!



Dancing on the water, the sun shone endlessly.

'As my grandfather went, arm over arm, his heart making sour little shudders against his ribs, he kept listening for a sound, the sound of the tiger, the sound of anything but his own feet and lungs.'

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



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,

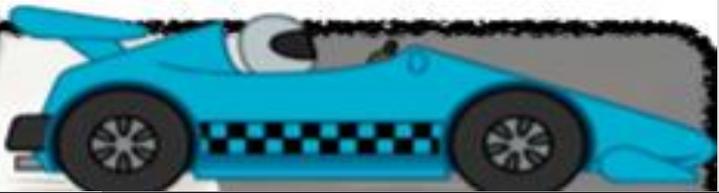
Meanwhile, Later that day, Seconds later, Subsequently, That afternoon,

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

Stay Safe and Sound Online

clear/apt/original title

subtitles

Manage your online reputation

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.

effectively/fluently sequenced paragraphs

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.

Writing Forms

bullet points

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;

Text for a Speech 'Address to Nation on the Challenger' by Ronald Regan (28th 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.'

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

Thank you.

Article

Andy Murray's Appliance of Science

clear/apt/original title

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.

strapline

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

sub-headings

Today, before he even steps out on to the Centre Court for his Wimbledon semi-final, the 27-year-old, huge-hitting Pole Jerzy Janowicz, 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.

introductory (overview) paragraph

fluently sequenced paragraphs

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 glittering Himalaya of fried starch, Murray will have eaten yogurt, fruit and a bagel smeared in peanut butter ...

Writing in the Essay Form

clear title

Zoos Should be Banned

effective introduction

In America, approximately 175 million people visit a zoo each year. That's half of America's population. Clearly this suggests that zoos remain popular places for people to visit for entertainment and to learn about wild animals. However, although some people are of the opinion that zoos can provide a source of educational entertainment and a sanctuary for endangered animals, I believe that the cruelty that wild animals suffer outweighs this benefit, and that they should be shut down!

effectively/fluently linked paragraphs to sequence a range of ideas

On the surface, zoos are a huge tourist attraction because they allow families to spend a day out in the sun, looking at animals, and eating overpriced junk food. But what most people don't know is that zoos are far more sinister than selling small bottles of water for £5.00. Statistics show that in all zoos, fifteen percent of animals die every year due to living in captivity. Obviously then, zoos must be an unsuitable environment for wild animals and should, therefore, be abolished. How can zoos justify their existence by claiming animals in captivity provide people with the experience of observing wildlife they wouldn't otherwise experience, when it costs at a cost to their life?

a range of ideas (no room to reproduce the other two paragraphs here)

In conclusion, a zoos only purpose is to make as much money as possible by showing thousands of people per day to gawk at animals and spend far too much money on souvenirs and junk food. Zoos do not protect or help to repopulate animals, nor do they educate people on the specifics of these animals, and therefore should be abolished.

convincing conclusion

Writing a formal letter

221B Bakers Street
London
NW1 6XE

reader's
address

Writing
Forms

writer's
address

35 Hibiscus Crescent
Andover
Hants
SP10 3WE

date

20th 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)

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.

Journey Description

Sitting in my seat – aisle, two rows from the front – I look out. Illuminating a town engulfed in darkness, lights flash past me: shop lights, street lights, car lights, and as the clouds part just enough for the moon to penetrate through the smog, moonlight!

Inside it's silent. No one speaks. The bus windows shut, lulled by the rocking motion, side-to-side, back-and-forth, up-and-down, my eyes feel heavy. Outside, I'm mesmerised by the noise I can only see, only imagine: mouths asking, replying, laughing, traffic screeching, angry drivers honking, shop doors opening and closing.

Once more the bus door opens and, as if I've lifted my head out from underwater, I can hear the street bustle, smell the takeaways, taste the diesel fumes.

Description of Place

spatial discourse markers

adjectives

Green limbs tangled above the decaying shells of long-abandoned vehicles, forming a canopy that barely permitted the harsh rays of the sun to burn through. The stealthy fingers of squat oak trees reached out tenaciously towards them. The vehicles themselves were coated in a thick layer of rust and a patina of blue copper – and were battered and bruised through years of exposure to the elements.

Metaphor, simile, personification

Like a queue of taxi cabs, the vehicles waited patiently in the forgotten depths of the forest. Specks of light from the midday sun, which had successfully fought their way through the overhead canopy, lit up their broken bodies. Their trunks gaped open woefully and their shattered eye sockets stared blindly forward.

sensory description

sensory description

The aroma of rust and decay occupied the clearing: it was choking, corrosive. No fresh breeze could infiltrate the thick shrubbery to provide relief. The cars lay there, suffocating on their own putrid stench. It was overpowering. Meanwhile, the squawks of blackbirds echoed like sirens around the clearing. The chilling sound was relentless. It echoed through the car's hollow bodies, feeding its way through the cracks in windows and doors, striking the upholstery of the rotting seat as it passed.

spatial discourse markers

sensory description

Spread over the floor of the clearing, a thick blanket of autumn leaves hid the earth beneath. They had turned a shade of burnt red and had bleached edges that resembled torn parchment. They were brittle and cracked from the heat in the clearing. Amongst them, all manner of insects scuttled- manoeuvring themselves between moments of shade, before the unforgiving rays of sun could scorch their exposed bodies.

adjectives

Climax (problem at its worst)

- Use exciting/dynamic verbs;
 - Quicken pace;
- Show characters feelings through action;
- Attempts to solve problem fail/intensify problem.
- Vary sentence length: short for action, longer for description.

Fail to Plan
Plan to Fail!

Rising Action (build up/conflict)

- Build on character, setting and plot;
- Introduce a problem/conflict/dilemma;
- Build tension/excitement using interesting adjectives, metaphors, similes etc.

Falling Action (fix problem)

- Character/s solving conflict/dilemma/ problem.

Exposition (introduction)

- Use a story hook to grab attention e.g. atmosphere, sudden event etc.;
- Use descriptive vocabulary to set the scene and describe the main character;

Resolution/Dénouement (ending)

- Link back to the start.
- What has the character learned?
- Is there an exciting twist?
- Is there a cliff-hanger ending?

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

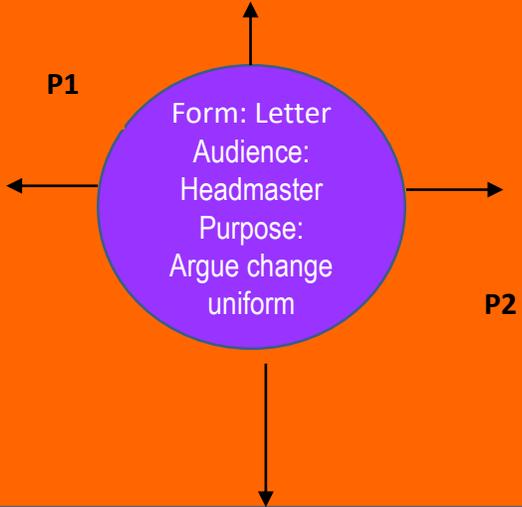
Conclusion:
To conclude,
repeat RQ,
Yes.

Yours
Sincerely

Intro: My address right hand side, +
date, school address left,
Dear Mr Curtis
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: all look same
so no
prejudice/bullying over
clothes,
Argument: no
individualism, learning
who we are
Reasons to: 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: old-
fashioned tradition,
so easier to continue
Argument: other
traditions - burnt
witches, slept on
straw, walked
barefoot – now
discontinued so ...
Reasons to:
anecdote, use
experts



Counter: cost cheaper as not designer or from shops
making huge profit
Argument: 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,
Reasons to: 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

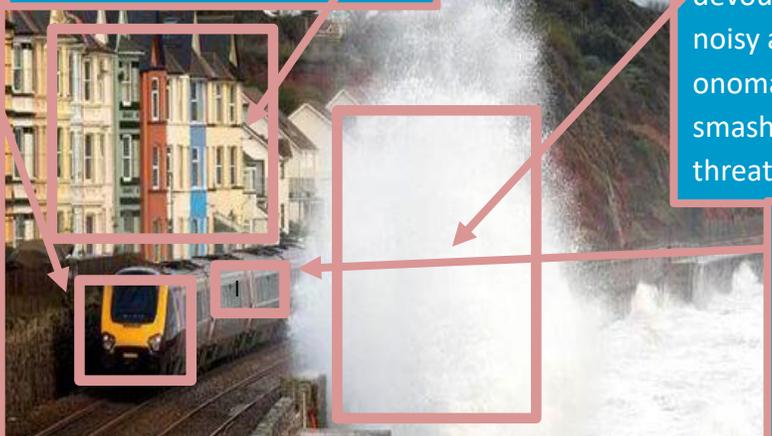
Personify train - a victim moving along railway line, past houses, towards destination - metaphor: caterpillar train sways and pitches precariously along the track to its daily destination. Snatching bites, the sea salt nips at its metal skin as it passes, gnawing at it, killing it. Rattles. Will it survive?

houses, like soldiers standing to attention - defending their inhabitants. Diff pastel colours of a seaside town: prawn pink, salmon peach, oyster grey, seaweed green ...

canopy of sky above threatening Adjectives for mood: grey sky, stuffed clouds full of cold, sharp rain, Verb: beating down, attacking!

waves engulfing and devouring the sea side town - noisy and disruptive, onomatopoeia: Crash! whip, smash personify so violent/threatening movement.

zoom in - one carriage window. Windows hit by spray that's 'like a tame cat turned savage'. Passenger pitched side-to-side: bubbling sickness, rising bile from stomach!

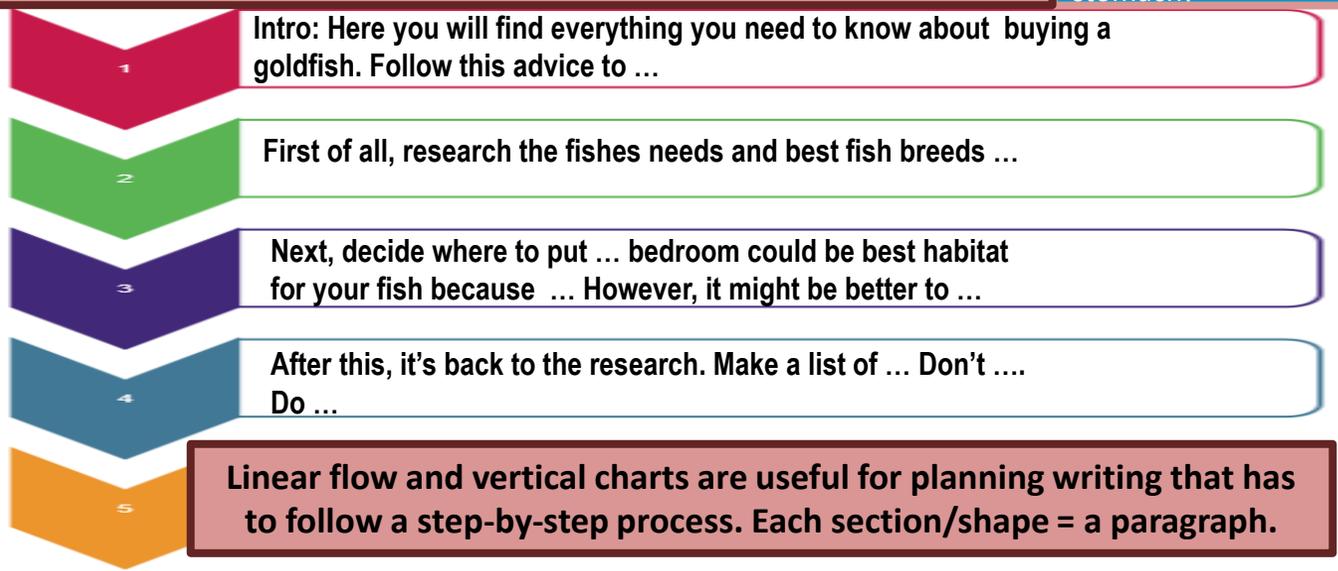


Plan describing pictures by boxing/framing parts of the image to help you to focus description on specific areas, zooming in on minute detail, and out again to another area. Each boxed area = a paragraph.

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	... ;

**Fail to Plan
Plan to Fail!**



Writing Purposes

Key Language/Structural methods

Chocolate Model!



Most often

Mis spelled
words

amateur	miniature
basically	noticeable
beginning	occurred
blasphemy	official
changeable	possession
collectible	preferable
colloquial	receive
definite(ly)	relevant
environment	success
exceed	twelfth
government	propaganda
grateful	publicly
immediate	success
judgement	ultimate
library	unfortunately

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.

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.

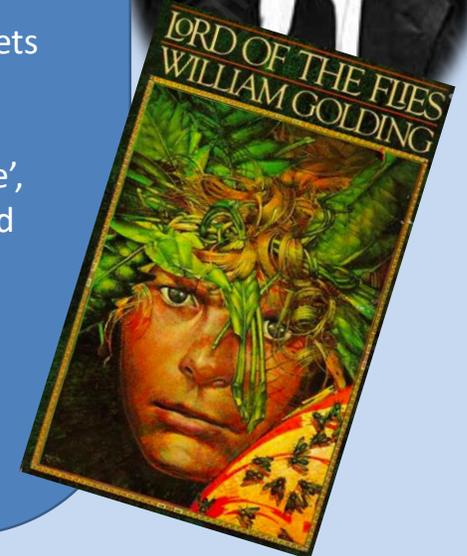
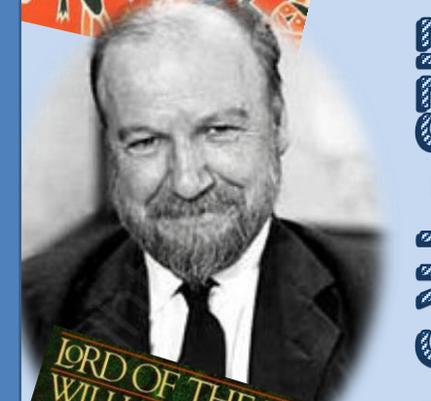
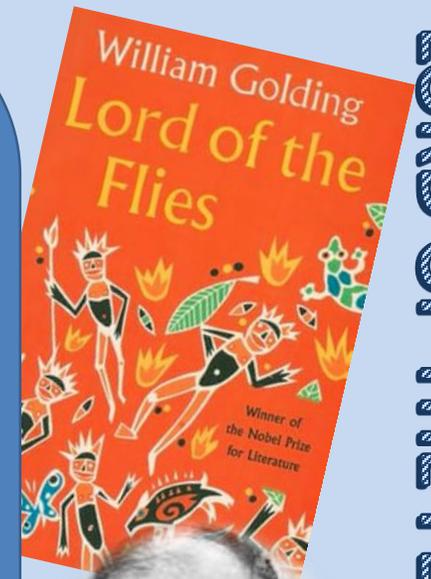
During the Second World War Golding served with the Royal Navy and was profoundly affected by his experiences. After the war he taught English and Philosophy at Bishop Wordsworth's boys' school in Salisbury. His experience teaching unruly young boys served as inspiration for his first novel *Lord of 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.

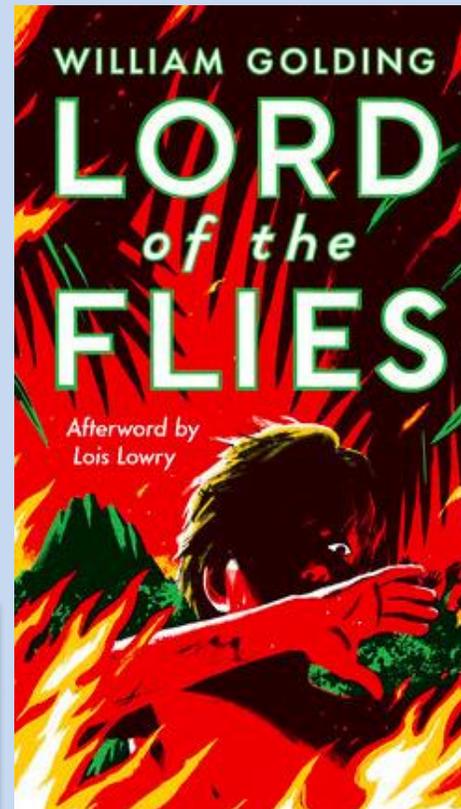
PART 2 THREAT AND FEAR APPEAR – with the arrival of the dead airman comes a physical threat – the fear becomes real. Destruction occurs and this is caused by the boys' actions. There is the beginning of the idea that they have evil within them (Simon's realization that "what I mean is...maybe it's only 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	The Lord of the Flies	The dead airman
Piggy's glasses	The island	The conch
fire	The Beast	

Themes in 'Lord of the Flies'

Human nature	Violence and death
Civilisation v savagery	Survival
Innocence and loss of it	Power
Fear	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
allegory	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?
microcosm	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?
macrocosm	the whole of a complex structure, especially the world or the universe, contrasted with a small or representative part of it. Contrasted with microcosm.
scar	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.
irony	the expression of one's meaning by using language that normally signifies the opposite, typically for humorous or emphatic effect.
foreshadowing	be a warning or indication of (a future event).
metaphor	a figure of speech in which a word or phrase is applied to an object or action to which it is not literally applicable.
symbolism	the use of symbols to represent ideas or qualities. In LOTF, the conch is a symbol of law and order/civilisation.
authority	the power or right to give orders, make decisions, and enforce obedience.
civilised	bring (a place or people) to a stage of social and cultural development considered to be more advanced
savage	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

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.

Discourse Markers Suitable for Descriptive Writing

above	before	beneath	here	nearby	other side of
through	on	onto	around	up	outside of
across	below	behind	in	next to	there
adjacent to	beneath	beyond	inside	close to	to the left of
among	beside	by	into	opposite	to the right of
at that point	between	down	near	over	under
against	on top of	underneath	in between	attached to	to the side of



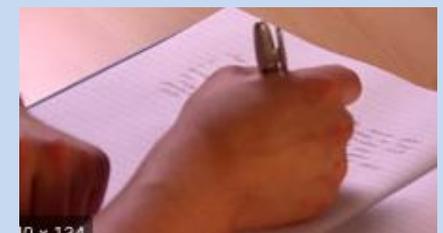
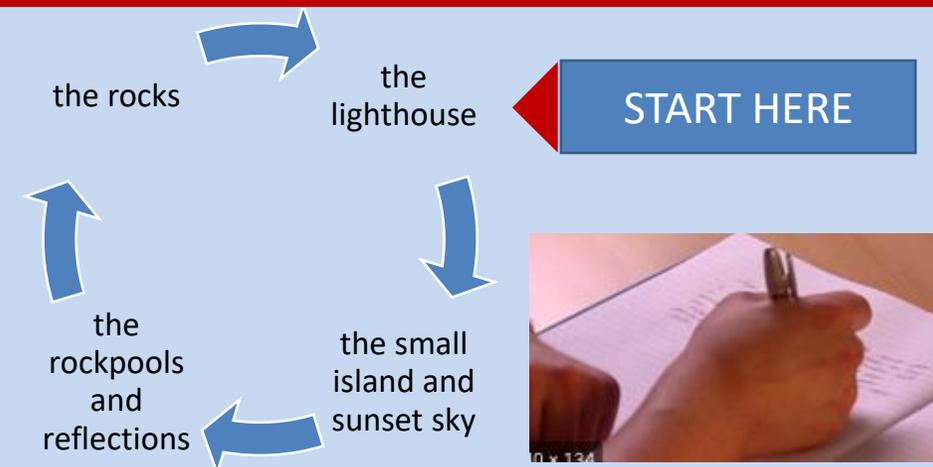
When given an image to write about, try splitting it up. This way, you can write about the different parts separately taking a paragraph per section. Watch this video to give you an idea how this works

<https://youtu.be/u5loSHRzfU0>

How can you alter the beginning of your sentences to keep your reader interested? Try these...

I	Present tense verb (-ing word)	'Shaking, the branches trembled with the rain's weight.
S	Simile	'As quiet as a thief, the wind crept over the mountain'.
P	Preposition	In, On, Under, Over, From, Across etc.
A	Adverbial	Quietly, the storm approached from the East.
C	Chain of three (rule of three)	Cold, fierce and menacing, the wind attacked.
E	Participle adjective (-ed word)	Exhausted, the clouds were still momentarily.
D	Discourse marker	After a while, Just at that moment, However,

Writing a CIRCULAR NARRATIVE is a very sophisticated skill – it shows that you have thought about structure. Using the picture above, there is a paragraph plan below to show you how this might work. You would write about the lighthouse in your first paragraph and then work your way through the image. Your final paragraph would be about the lighthouse again. This paragraph could be exactly the same as your opening paragraph or there could be subtle differences to show how time has moved on and things have changed.



What do I need to be able to do?

- Understand what is data and what are the different types of data
- What are the different ways of collecting and organising data?
- Understand what averages are and how to calculate the Mean, Median, Mode and Range
- Construct accurate statistical representations including Pictograms, Bar charts, Pie charts and Scatter graphs.
- How to interpret data from a table, graph and chart and make reasonable deductions

Key words

Data

- | | |
|-----------------|-------------|
| Discrete | Mean |
| Continuous | Median |
| Primary | Mode |
| Secondary | Range |
| Qualitative | Ascending |
| Quantitative | Correlation |
| Numerical | |
| Primary | |
| Secondary | |
| Tally | |
| Frequency | |
| Class Intervals | |
| Averages | |

What is Data and what are the different types of data?

Data – Information in the form of words, numbers or symbols collected together for reference or analysis.

If the data is **numerical** (in numbers) we call this **quantitative** data, think quantity like amount. Example: How many pets do you have? “4” the answer is quantitative.

If the data is in words we call this **qualitative** data, think quality like the quality of an essay. Example: What’s your favourite food? “Curry” the answer is qualitative.

Quantitative data can be split into 2 types; **Discrete** data is when the answer is counted. Example: How many computer games do you own? You count how many games you have “10 games” and your answer is specific and therefore discrete.

Continuous data is measured. Example: What is your foot length? You can never measure anything exactly, your answer might be different depending on the tool you use and the accuracy with which you measure. You might measure your foot with a ruler to be 18cm but in a shoe shop with more accurate tools might measure it as 186mm, therefore the answer is continuous.

HegartyMaths clips 392, 393

Collecting Data

Primary data – data you collect yourself. Questionnaires, surveys, observation, experiments, interviews etc.

Secondary data – Using data collected by someone else.

Research, books, internet, newspapers, articles, studies etc.

Organising Data

HegartyMaths clip 401

Once the data has been collected it needs to be organised so it can be analysed. I ask 67 people what their favourite colour is, their responses can be organised in a **tally** chart like this one. Tallies are recorded in groups of 5. Adding the tally gives the **frequency**. Frequency is the total number of times an answer has been selected.

Colour	Tally	Frequency
Red	HHH HHH III	13
Blue	HHH IIII	9
White	HHH HHH HHH HHH IIII	24
Black	HHH HHH II	12
Other	HHH IIII	9

When there are many options the answers can be grouped into **class intervals**, or groupings. Grouped frequency table:

Number of magazines	Tally	Frequency
0 - 4	HHH III	8
5 - 9	HHH	5
10 - 14	HHH II	7
15 - 19	III	3
20 - 24	HHH IIII	9
25 - 29	III	3
30 - 34		0
35 - 39	HHH	5
40 - 44		0
45 - 49	III	3
more than 49		0

Analysing Data

Average – A number that best represents a set of data. A calculated "central" value of a set of numbers. There are 4 mathematical averages, the best type of average to use depends on the data set.

Mean – The most common type of 'average' It is easy to calculate: **add up** all the numbers, then **divide by how many** numbers there are.

HegartyMaths clips 405 to 408

Example 1: What is the Mean of these numbers?

6, 11, 7

- Add the numbers: $6 + 11 + 7 = 24$
- Divide by *how many* numbers (there are 3 numbers): $24 / 3 = 8$

The Mean is 8

$6 + 11 + 7 = 8 + 8 + 8$

It is like you are "flattening out" the numbers

Mode – The **"most common"** or the appears most often. There can be more than one Mode.

HegartyMaths clip 404

Example:

3, 7, 5, 13, 20, 23, 39, 23, 40, 23, 14, 12, 56, 23, 29

In order these numbers are:

3, 5, 7, 12, 13, 14, 20, **23, 23, 23, 23**, 29, 39, 40, 56

This makes it easy to see which numbers appear **most often**.

In this case the mode is **23**.

Range – The **difference** between the largest and smallest values in a data set.

Biggest – smallest = Range

Analysing Data

Median – The *"middle"* of a sorted list of numbers.

Step 1 – Put the numbers in **ascending** order (smallest to biggest)

Step 2 – Find the **middle** number. **count how many numbers, add 1 then divide by 2.**

$$\frac{n+1}{2} \quad n = \text{how many numbers in the data set}$$

Example 1: Calculate the median of 3, 13, 7, 5, 21, 23, 39, 23, 40, 23, 14, 12, 56, 23, 29

Step 1 – Order the numbers
3, 5, 7, 12, 13, 14, 21, 23, 23, 23, 23, 29, 39, 40, 56,

Step 2 – There are 15 numbers
 $n = 15 \quad \frac{n+1}{2} = \frac{15+1}{2} = 8^{\text{th}}$

The middle number is the 8th number:

3, 5, 7, 12, 13, 14, 21, **23**, 23, 23, 29, 39, 40, 56,

The Median is 23

If the data set has an even amount of numbers then the median is mid-point between the 2 middle numbers.

Example: Calculate the median of 5, 7, 3, 9,

Step 1: Order numbers 3, 5, 7, 9,

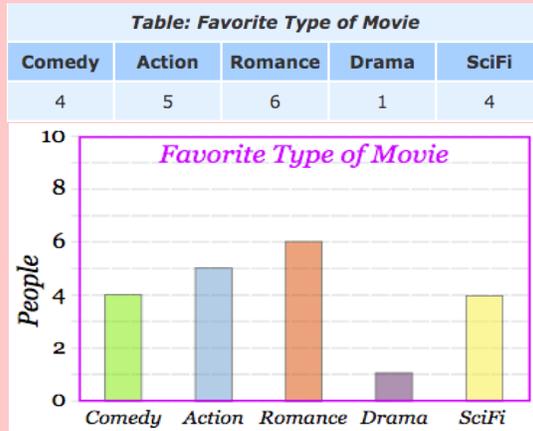
Step 2: $n = 4 \quad \frac{n+1}{2} = \frac{4+1}{2} = 2.5^{\text{th}}$

The median is half way between the 2nd and 3rd number. The median is 6.

Presenting Data

The data has been collected, it has been sorted and now it can be presented.

Bar Chart:

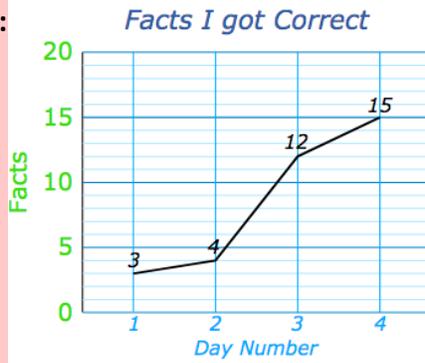


The perfect **Bar chart** must:

- Be drawn with a pencil and ruler
- Have a title
- Have spaces between the bars
- The axes must be labelled
- Have bars of equal width and equal sized spaces between the bars
- Have an even scale – equal sized space between the numbers

Line graph:

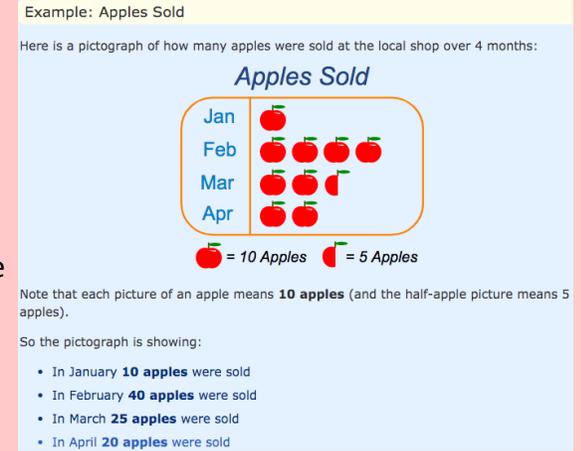
Same as a bar chart but data points connected by straight lines.



Pictogram/pictograph – showing data using images. Each image represents a specific value.

The perfect **Pictogram** must:

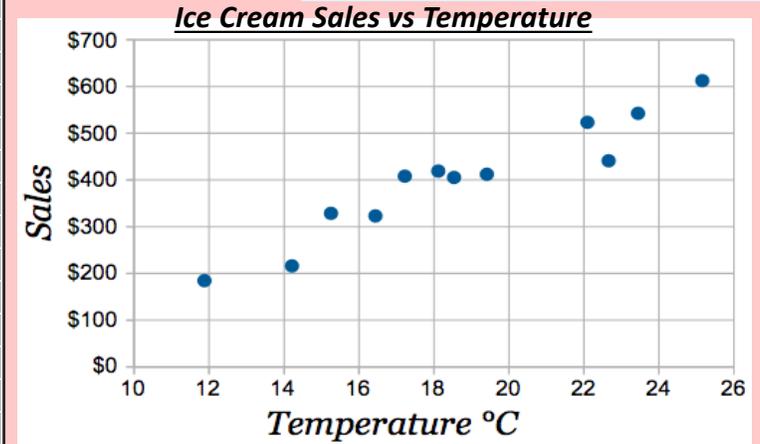
- Have a title
- Have a key showing the value of the image
- Have images of an equal size and shape with equal distance between each image



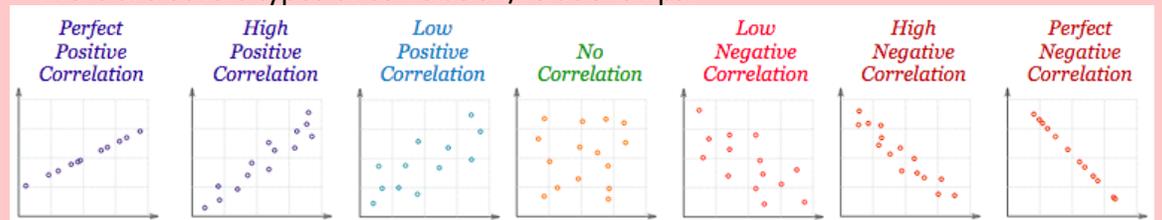
Scatter Graph – shows the relationship between two quantitative data sets.

Ice Cream Sales vs Temperature

Temperature °C	Ice Cream Sales
14.2°	\$215
16.4°	\$325
11.9°	\$185
15.2°	\$332
18.5°	\$406
22.1°	\$522
19.4°	\$412
25.1°	\$614
23.4°	\$544
18.1°	\$421
22.6°	\$445
17.2°	\$408



This type of graph allows us to draw a conclusion about the relationship between two things, in this example we can say as the temperature increases, so does the number of ice creams sold. We call this a positive correlation as both values are increasing together. There are others types of correlation/relationships:



Pie chart

Represents data in a way that shows the relative size of the category. A good way of displaying data if there are large differences between the categories but not accurate when interpreting the data.

Example: You survey your friends to find out their favourite genre of movie. The results are

Comedy	Action	Romance	Drama	SciFi
4	5	6	1	4

Comedy	Action	Romance	Drama	SciFi	TOTAL
4	5	6	1	4	20

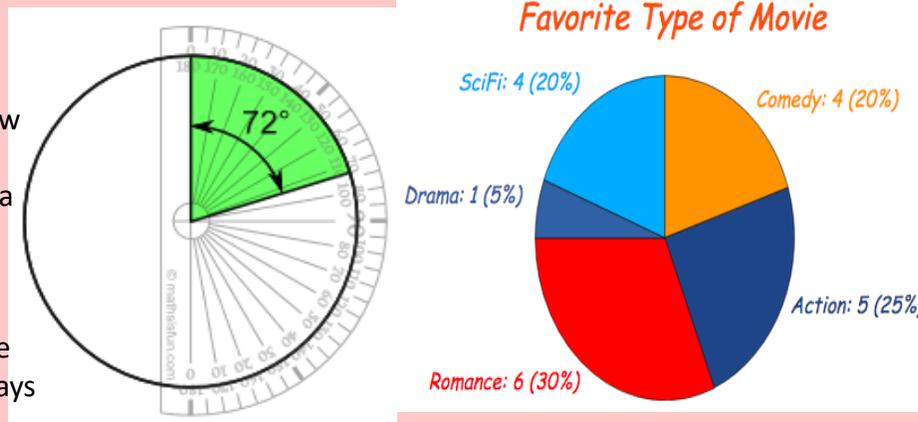
$$\frac{360}{20} = 18^\circ$$

Comedy	Action	Romance	Drama	SciFi	Total
4	5	6	1	4	20
4 x 18 = 72°	5 x 18 = 90°	6 x 18 = 108°	1 x 18 = 18°	4 x 18 = 72°	20 x 18 = 360°

- Draw a circle using a compass and pencil
- Draw a line from the centre of the circle to the edge, this is the base line
- Line up a protractor with the base line, the centre of the circle positioned with the central cross of the protractor. Follow the base line to the edge of the protractor and counting up from zero, measure the angle of the first sector (slice). Make a mark, remove the protractor and draw a straight line to complete the first slice
- Line up the protractor on the line you have just drawn and repeat the last step, this time measuring the slice to the angle of the next slice, repeat until complete. Remembering to always line up with the last line drawn.
- Don't forget to add a title and Key.

How to draw a pie chart:

- Calculate the total frequency (add up all of the people in your survey)
- There are 360° in a full circle, Divide 360 by the total frequency (the number of people in your survey) to calculate how many degrees each person is worth $\frac{360}{20} = 18^\circ$
- Multiply each frequency by the number of degrees per person to calculate the angle size of the sector (slice of the pie)



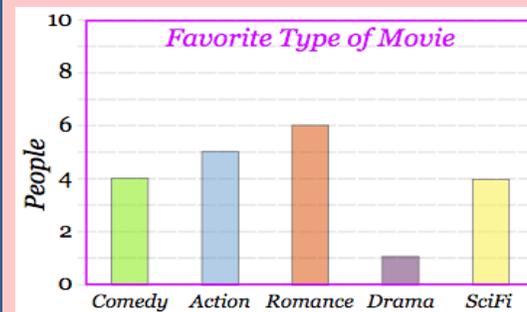
Interpreting Data

To interpret data is to analyse data and make deductions and infer relationships.

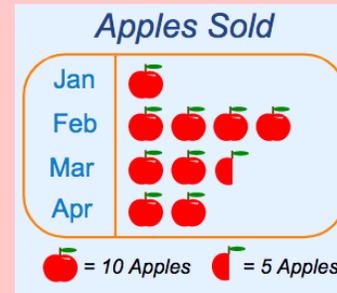
Examples:

Colour	Tally	Frequency
Red		13
Blue		9
White		24
Black		12
Other		9

By analysing this tally chart we can deduce that the most popular colour is white.



By analysing this bar chart we can deduce from the survey that the most popular genre of Movie is Romance and the least popular is Drama.



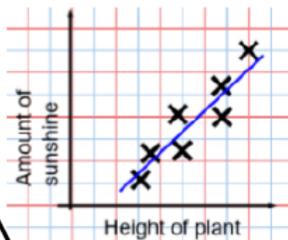
From this pictogram We can deduce that The most number of Apples were sold in February (40) and the least in January (10). The Range is 30.

The way in which the data is presented can show relationships and differences quickly and efficiently. Making analysis and interpretation easy depending on the type of graph/chart used.

The line of best fit



The Line of best fit is used to make estimates about the information in your scatter graph



It is only an estimate because the line is designed to be an average representation of the data
It is always a straight line.

Things to know:

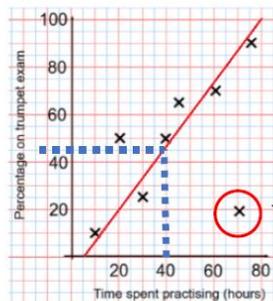
- The line of best fit DOES NOT need to go through the origin (The point the axes cross)
- There should be approximately the same number of points above and below the line (It may not go through any points)
- The line extends across the whole graph

Using a line of best fit



Interpolation is using the line of best fit to estimate values inside our data point

e.g. 40 hours revising predicts a percentage of 45.



Extrapolation is where we use our line of best fit to predict information outside of our data
This is not always useful – in this example you cannot score more than 100%. So revising for longer can not be estimated

This point is an "outlier" it is an outlier because it doesn't fit this model and stands apart from the data

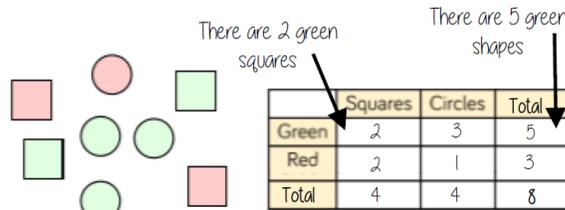
HegartyMaths clips 454

Comparing distributions

Comparisons should include a statement of average and central tendency, as well as a statement about spread and consistency.
Mean, mode, median – allows for a comparison about more or less average
Range – allows for a comparison about reliability and consistency of data

Representing data in two-way tables

Two-way tables represent discrete information in a visual way that allows you to make conclusions, find probability or find totals of sub groups



Using your two-way table

To find a fraction
e.g. What fraction of the items are red? 3 red items but 8 items in total = $\frac{3}{8}$

Interleaving: Use your fraction, decimal percentage equivalence knowledge

HegartyMaths clips 422-424

Averages from a table



Non-grouped data

Number of Siblings	0	1	2
Frequency	6	8	6
Subtotal	0	8	12

The data in a list: 0,0,0,0,0,1,1,1,1,1,1,1,2,2,2,2,2,2

Mean: $\frac{\text{total number of siblings}}{\text{Total frequency}} = 1$

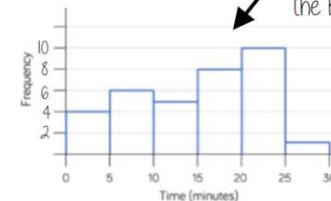
Grouped data

x	Frequency	Mid Point	MP x Freq
40 < x ≤ 50	1	45	45
50 < x ≤ 60	3	65	195
60 < x ≤ 70	5	65	325

The data in a list: 45, 55, 55, 55, 65, 65, 65, 65, 65

Grouped quantitative data

Time (minutes)	Frequency
0 ≤ t < 5	4
5 ≤ t < 10	6
10 ≤ t < 15	5
15 ≤ t < 20	8
20 ≤ t < 25	10
25 ≤ t < 30	1



"More than or equal to 25 and less than 30 minutes"

The use of inequalities shows that this will be a frequency diagram

This is a frequency diagram
There are no gaps between the bars

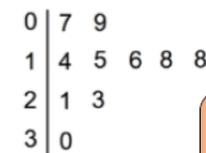
Grouping the data is useful if there is a large spread of data to begin with

HegartyMaths clips 403

Stem and leaf

A way to represent data and use to find averages

This stem and leaf diagram shows the age of people in a line at the supermarket.



Key: 1|4 Means 14 years old

Stem and leaf diagrams:
Must include a key to explain what it represents
The information in the diagram should be ordered

Back to back stem and leaf diagrams

Girls	Boys
5	14
7, 5, 5, 5, 4	15 3, 8, 9
8, 4, 2, 1, 0	16 2, 5, 7, 7, 8, 8, 9
9, 8, 7, 6, 6, 4, 2, 1, 1, 0, 0	17 0, 2, 3, 6, 6, 7, 7
	18 0, 1, 4, 5

15 | 3.
Means 153 cm tall

Back to back stem and leaf diagrams
Allow comparisons of similar groups
Allow representations of two sets of data

HegartyMaths clips 430 - 433

Place Value System

Millions 1000000	Hundreds of thousands 100000	Tens of thousands 10000	Thousands 1000	Hundreds 100	Tens 10	Units 1	Tenths $1/10$	Hundredths $1/100$	Thousandths $1/1000$
M	HTh	TTh	Th	H	T	U	$1/10$	$1/100$	$1/1000$
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.

- 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) $c \neq d$



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.

Keywords:

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

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.

1st Decimal Place
2nd Decimal Place
3rd Decimal Place

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

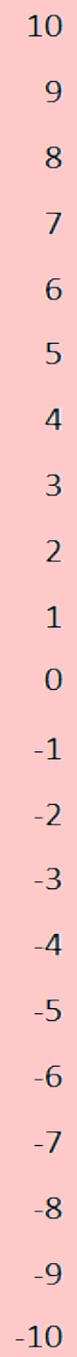
The 1st significant figure is 7, there is a 6 after it so we increase the 7 to an 8 to become 8000.

10 240 to 3 sf = 10 200

The 3rd 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 2nd significant figure is the 4 as the first zeros do not count. After the 4 is a 9 so we round up.



Addition and Subtraction

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

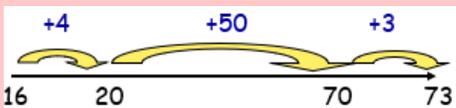
Break down the number you are adding so you can do the calculation in stages:

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

Counting on

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

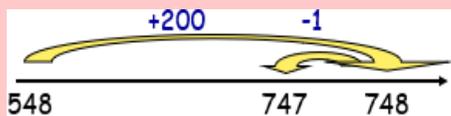
$$73 - 16 = 57$$



Compensation

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

$$548 + 199 = 747$$



Estimation

Hegarty : 131

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

Hegarty : 37 - 44

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

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

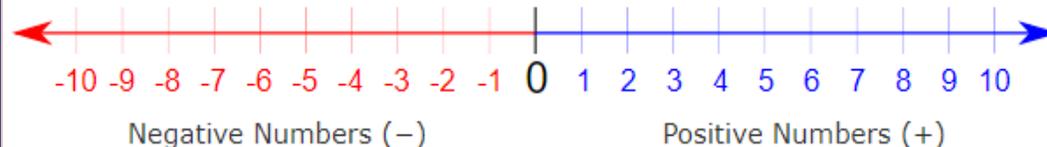


Different signs together give a negative: $3 + (-2) = 3 - 2 = 1$

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)

Hegarty : 1, 3

- 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)

Hegarty : 2, 3

- 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

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) $-50 \div -10 = 5$

Multiplying by powers of 10

$\times 10$ = move digits 1 place to the left
 $\times 100$ = move digits 2 places to the left
 $\times 1000$ = move digits 3 places to the left....

Example

$54.2 \times 10 = 542$

Hegarty : 15

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

$\times 10$ (with arrow pointing left)

Dividing by powers of 10

$\div 10$ = move digits 1 place to the right
 $\div 100$ = move digits 2 places to the right
 $\div 1000$ = move digits 3 places to the right....

Example

$235 \div 10 = 23.5$

Hegarty : 16

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

$\div 10$ (with arrow pointing right)

Keywords:

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

Written Methods of Multiplication

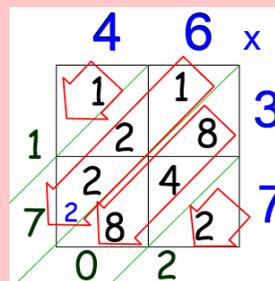
Work out 46×37

Hegarty : 4, 10, 12

Column Method

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

Lattice Method



Order of Operations

Hegarty : 4, 10, 12

B (brackets)

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

I indices²

D \div division

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

M multiplication \times

A + addition

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

S subtraction $-$

Written Method of Division

Hegarty : 21 - 23

Division into an integer

$2931 \div 3 = 977$

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

Division into a decimal

$27.6 \div 6 = 4.6$

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

Division into an integer with remainder

$1985 \div 4 = 496.25$

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

Division into a decimal with "remainder"

$57.2 \div 8 = 7.15$

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

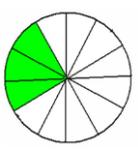
$\frac{1}{10} \times 0.1$ is the same as $\div 10$
 $\frac{1}{10} \div 0.1$ is the same as $\times 10$
 $\frac{1}{100} \times 0.01$ is the same as $\div 100$
 $\frac{1}{100} \div 0.01$ is the same as $\times 100$
 $\frac{1}{1000} \times 0.001$ is the same as $\div 1000$
 $\frac{1}{1000} \div 0.001$ is the same as $\times 1000$

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



Year 9 Maths Term 2 Fractions, Decimals and Percentages

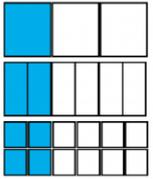
Different ways fractions can be represented (all of these are "one quarter")

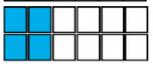
0.25 $\frac{1}{4}$  $\frac{3}{12}$



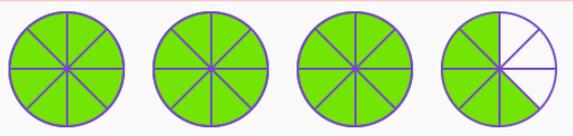
25%

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

$\frac{2}{6}$  $\frac{1}{3}$

$\frac{4}{12}$ 

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).



Convert between fractions, decimals and percentages

Fraction **Decimal** **Percent**

$\frac{3}{4}$ 0.75 75%

Divide numerator by denominator Multiply by 100

Multiply by $\frac{100}{10}$ and reduce Divide by 100

Fraction **Decimal** **Percent**

$\frac{3}{4}$ 0.75 $0.75 = 75\%$

divide $4 \overline{)3.00}$

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 $0.3474747\dots$ to fraction

Let $x = 0.3474747\dots$

So $10x = 3.474747\dots$

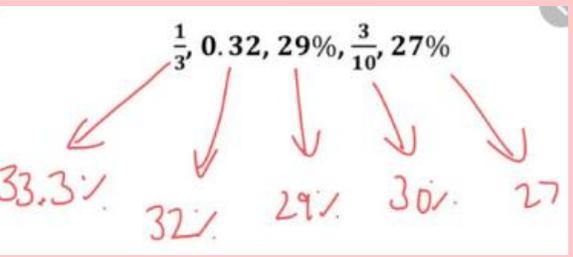
and $1000x = 347.474747\dots$

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).



To multiply:

- multiply numerators
- multiply denominators
- 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

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

To add and subtract:

- find equivalent fractions with same denominator
- add/subtract numerators
- Simplify

Work out

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

Work out

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

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!

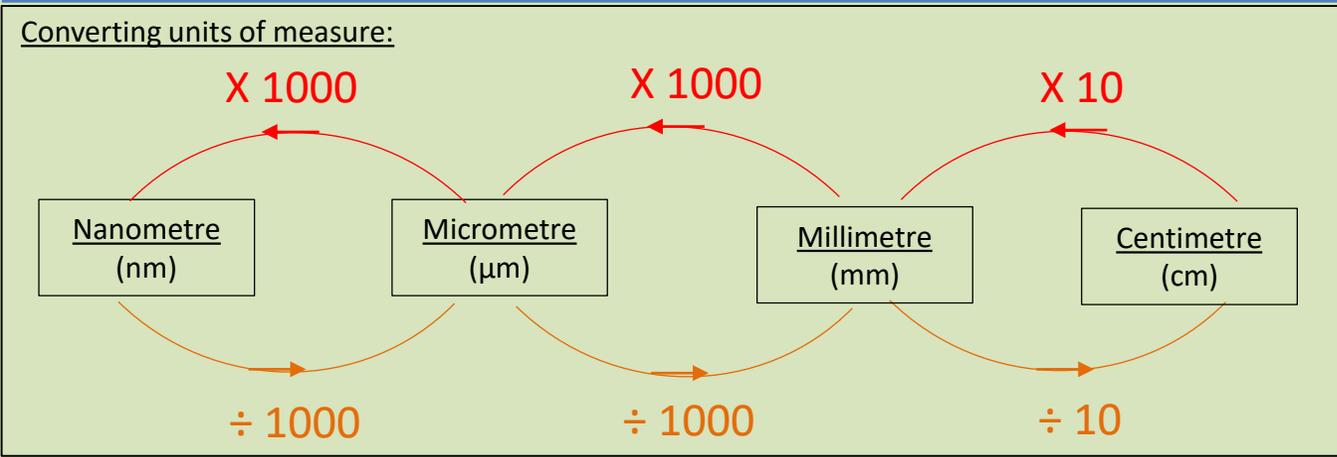
Remember: divide by the denominator, multiply by the numerator.

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

Science: Useful Information

Key Word / Term	Definition
Accuracy	Results are close to the true value
Precision	Results are similar to each other but not necessarily close to the true value
Repeatable	Similar results are obtained if the investigation is done again by the same person
Reproducible	Similar results are obtained if it is repeated by a different person
Resolution	Is the smallest change a measuring instrument can detect
Validity	A measure of how correct the results of an experiment are

Prefix	Number	Standard Form	e.g. metres
Giga	1,000,000,000	1×10^9	Gm
Mega	1,000,000	1×10^6	Mm
kilo	1,000	1×10^3	km
-----	1	1	m
milli	0.001	1×10^{-3}	mm
micro	0.000001	1×10^{-6}	μm
nano	0.000000001	1×10^{-9}	nm



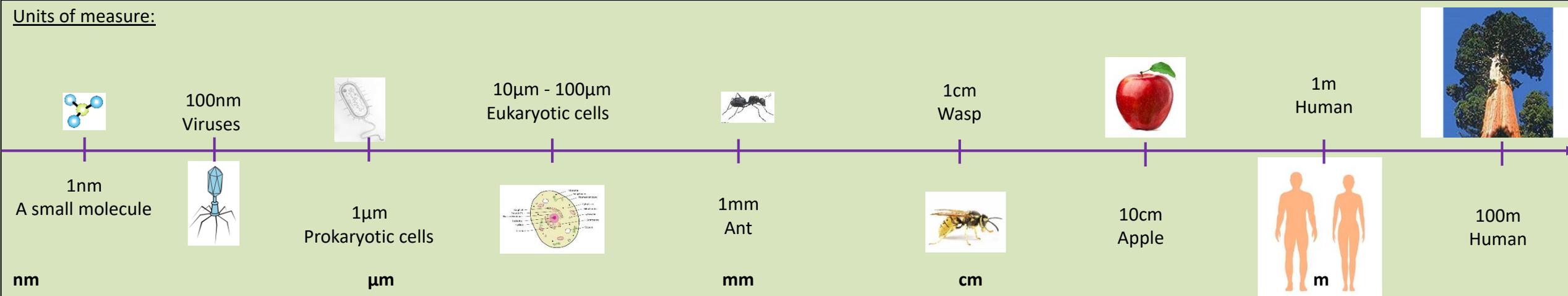
Variables:

Independent: the variable that is being **changed** during the experiment

Dependent: the variable **being tested** or **measured** during the experiment

The independent variable affects the dependent variable, the others must be controlled

Control: **Keep the same** (there can be more than one control variable) so that they do not affect the independent variable



KEY:

RELATIVE ATOMIC MASS
Atomic Symbol
name
ATOMIC (PROTON) NUMBER

The Periodic Table of Elements



1	2											3	4	5	6	7	0	
																		4 He helium 2
7 Li lithium 3	9 Be beryllium 4											11 B boron 5	12 C carbon 6	14 N nitrogen 7	16 O oxygen 8	19 F fluorine 9	20 Ne neon 10	
23 Na sodium 11	24 Mg magnesium 12											27 Al aluminium 13	28 Si silicon 14	31 P phosphorus 15	32 S sulfur 16	35.5 Cl chlorine 17	40 Ar argon 18	
39 K potassium 19	40 Ca calcium 20	45 Sc scandium 21	48 Ti titanium 22	51 V vanadium 23	52 Cr chromium 24	55 Mn manganese 25	56 Fe iron 26	59 Co cobalt 27	59 Ni nickel 28	63.5 Cu copper 29	65 Zn zinc 30	70 Ga gallium 31	73 Ge germanium 32	75 As arsenic 33	79 Se selenium 34	80 Br bromine 35	84 Kr krypton 36	
85 Rb rubidium 37	88 Sr strontium 38	89 Y yttrium 39	91 Zr zirconium 40	93 Nb niobium 41	96 Mo molybdenum 42	[98] Tc technetium 43	101 Ru ruthenium 44	103 Rh rhodium 45	106 Pd palladium 46	108 Ag silver 47	112 Cd cadmium 48	115 In indium 49	119 Sn tin 50	122 Sb antimony 51	128 Te tellurium 52	127 I iodine 53	131 Xe xenon 54	
133 Cs caesium 55	137 Ba barium 56	139 La* lanthanum 57	178 Hf hafnium 72	181 Ta tantalum 73	184 W tungsten 74	186 Re rhenium 75	190 Os osmium 76	192 Ir iridium 77	195 Pt platinum 78	197 Au gold 79	201 Hg mercury 80	204 Tl thallium 81	207 Pb lead 82	209 Bi bismuth 83	[209] Po polonium 84	[210] At astatine 85	[222] Rn radon 86	
[223] Fr francium 87	[226] Ra radium 88	[227] Ac* actinium 89	[267] Rf rutherfordium 104	[270] Db dubnium 105	[269] Sg seaborgium 106	[270] Bh bohrium 107	[270] Hs hassium 108	[278] Mt meitnerium 109	[281] Ds darmstadtium 110	[281] Rg roentgenium 111	[285] Cn copernicium 112	[286] Nh nihonium 113	[289] Fl flerovium 114	[289] Mc moscovium 115	[293] Lv livermorium 116	[293] Ts tennessine 117	[294] Og oganesson 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 community of living organisms with the non-living (abiotic) parts of their environment.
Biotic factors	Living components of an ecosystem . Eg availability of food, new predators/pathogens/competitors.
Abiotic factors	Non-living factors that affect living organisms eg light intensity, temperature, moisture levels, soil pH, wind intensity and direction, CO ₂ for plants, O ₂ for aquatic animals.
Community	Organisms that interact with each other in an ecosystem .
Interdependence	The network of relationships between different organisms within a community 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 abundance and distribution 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

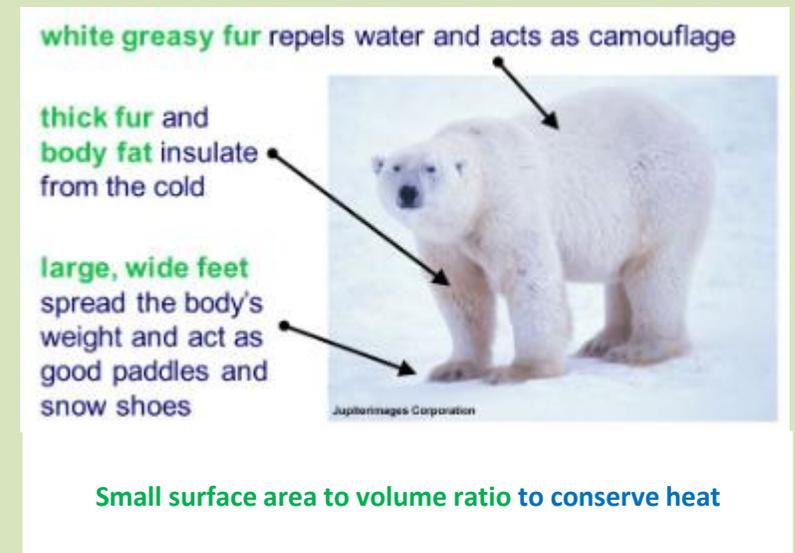
Functional adaptation: Any adaptation that helps an organism survive eg plants do photosynthesis, animals do digestion.

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.

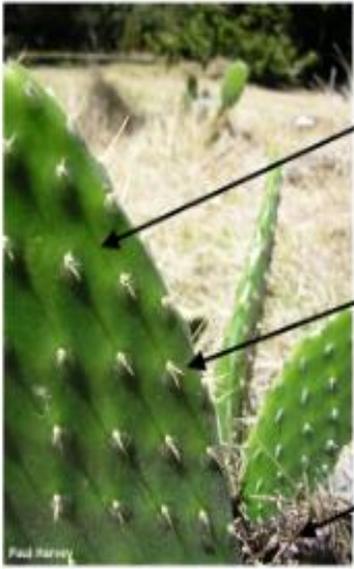
Structural adaptation: Physical adaptations eg beak shape to crack nuts, fur colour for camouflage.

Behavioural adaptation: things that organisms do in order to survive eg 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**



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:

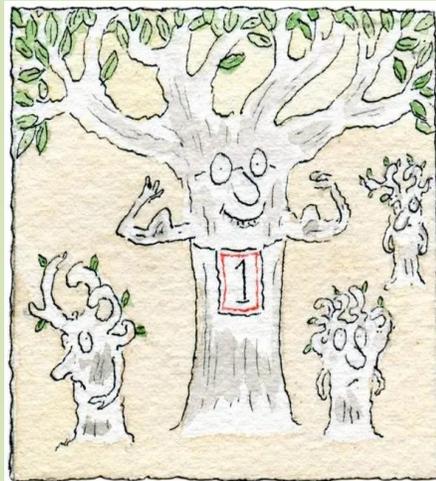
1. **Number of an individual species** - the total number of individuals of one species (eg daisies) is recorded.
2. **Species richness** - the number of different plant or animal species is recorded but not the number of individuals within a species.
3. **Percentage cover** - the percentage of the quadrat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



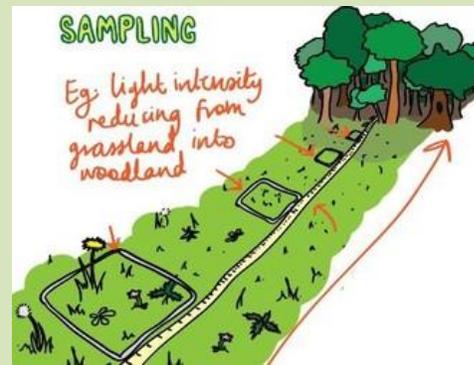
- Animals compete for mates, shelter, water, food. This may be with different species or within the same species.



- 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.

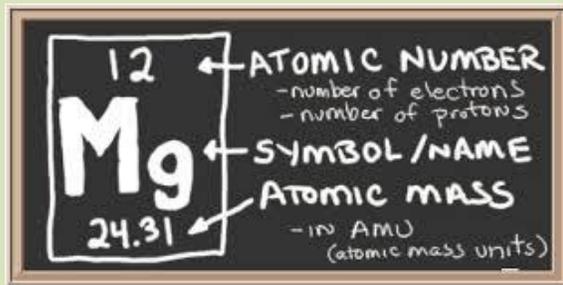
KS4 Chemistry: C1 Atomic structure

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, I₂

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

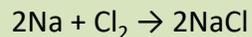
A word equation represents a chemical reaction using the names of the substances involved
Reactants are substances that react together in a chemical reaction. In a chemical reaction, the atoms or ions in reactants separate from one another. They join back together in a different way to form **products**.

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:

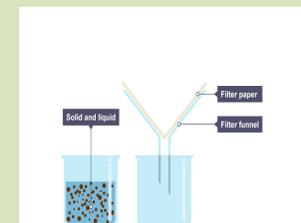
$\text{H}_2\text{O}(\text{l})$ is liquid water but $\text{H}_2\text{O}(\text{g})$ is steam and $\text{H}_2\text{O}(\text{s})$ is ice

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

Mixtures

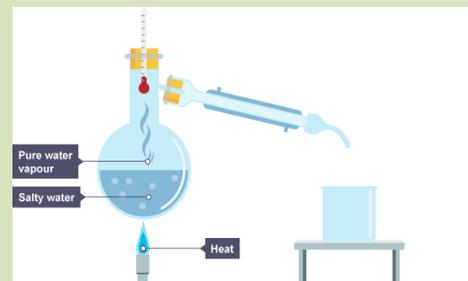
Mixtures can be separated by physical processes. These processes do not involve chemical reactions, and no new substances are made.

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

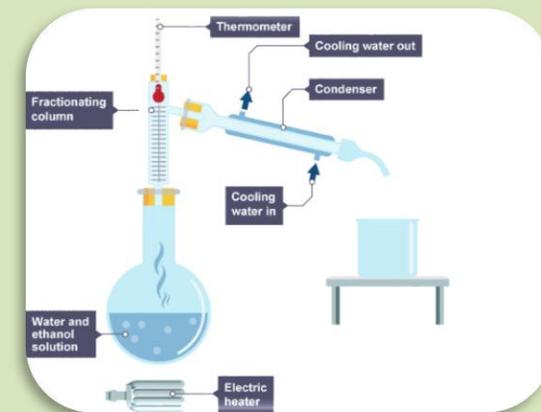


Crystallisation is used to produce solid crystals from a solution. When the solution is warmed, some of the solvent evaporates leaving crystals behind



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

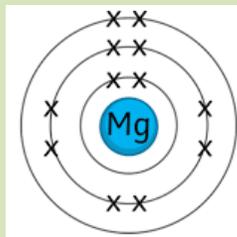
stationary phase, which in paper chromatography is very uniform, absorbent paper

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

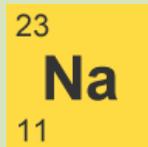


Calculating numbers of subatomic particles

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.

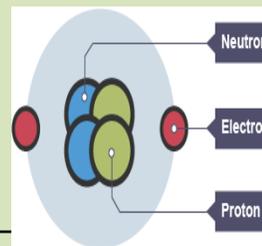
Development of Atomic Model

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**.

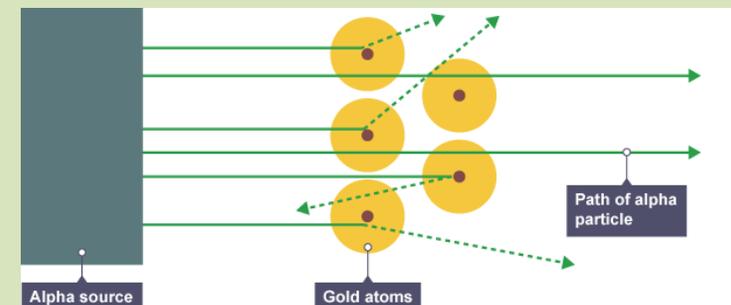
Chadwick later discovered **neutrons**.

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.



**KS4 Physics:
P6 Molecules and matter**

Density

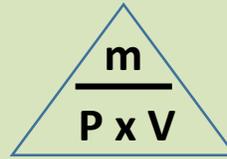
$$\text{Density (kg/m}^3\text{)} = \frac{\text{mass (kg)}}{\text{Volume}}$$

(m³)

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

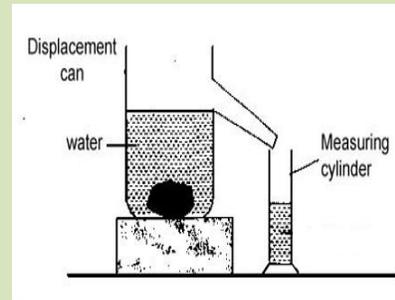
To calculate the density of a regular shape

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

1m³ = 100cm x 100cm x 100cm (1000000cm³)

So 1cm = 0.01m, but 1cm³ = 0.000001m³

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)

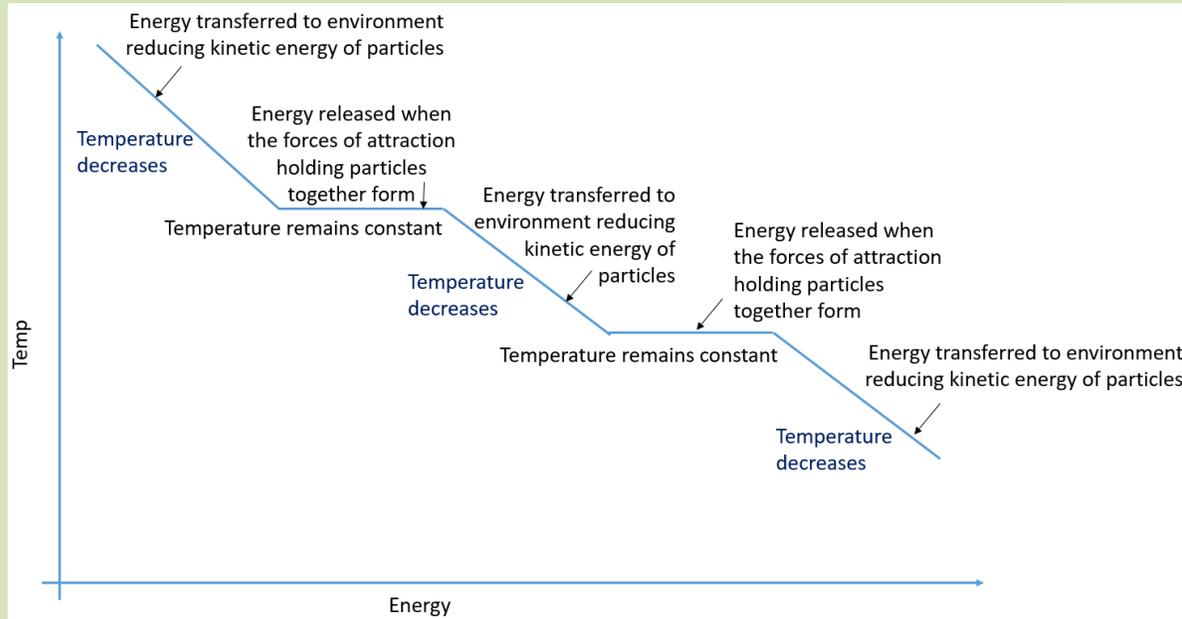
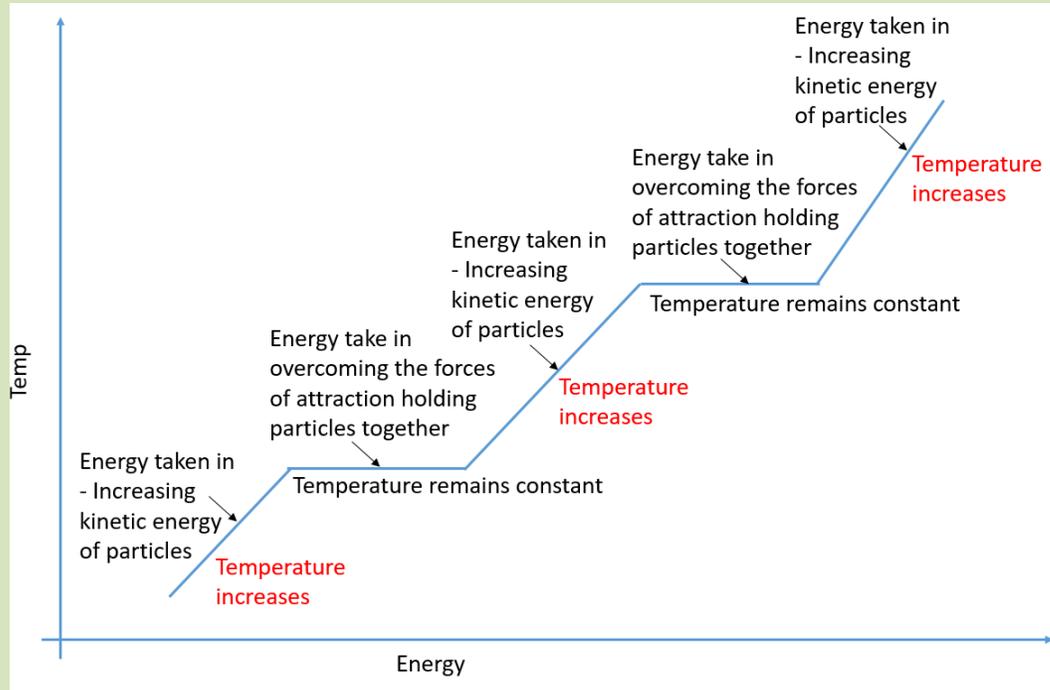
Specific latent heat of fusion, L_F – energy transferred during melting

Specific latent heat of vaporisation, L_V – 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			

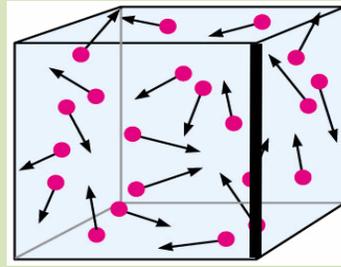
Internal energy - the sum of a particles kinetic energy and potential energy

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 (m³) = constant

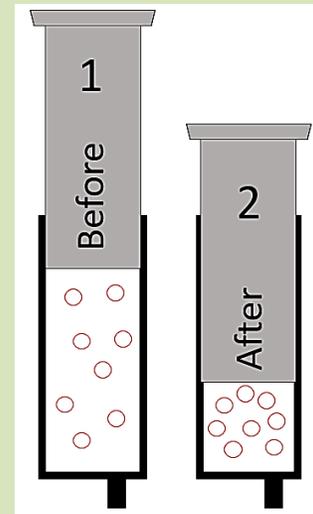
$$p \times v = \text{constant}$$

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

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



Computer Science – Cyber Security - Term 1

What is Cyber Security?

Cyber security is the application of technologies, processes and controls to protect systems, networks, programs, devices and data from cyber attacks.

It aims to reduce the risk of cyber attacks and protect against the unauthorised exploitation of systems, networks and technologies.

Malware

Malicious code is software written to harm or cause issues with a computer. This is also referred to as malware and comes in a number of different forms. In all its forms, the code has been written to either harm or steal data from your computer system.

These include:

- Viruses
- Trojans
- Ransomware
- Spyware
- Adware

Social Engineering

Blagging is the act of creating and using an invented scenario to engage a targeted victim in a manner that increases the chance the victim will divulge information or perform actions that would be unlikely in ordinary circumstances.

Phishing is a technique of fraudulently obtaining private information, often using email or SMS. (Scam Emails – “You have won a prize!”)

Pharming is a cyber attack intended to redirect a website's traffic to another, fake site.

Shouldering is observing a person's private information over their shoulder e.g. cashpoint machine PIN numbers.

What cyber threats could you face?

There are multiple cyber threats that attack servers and systems daily. Some of them you may have already encountered!

Social engineering techniques: Social engineering is the art of manipulating people so they give up confidential information. The types of information these criminals are seeking can vary, but when individuals are targeted the criminals are usually trying to trick you into giving them your passwords or bank information, or access your computer to secretly install malicious software—that will give them access to your passwords and bank information as well as giving them control over your computer.

Weak and default passwords: Some of the most common passwords are surprisingly simple. Examples include 123456 and qwerty. Most computer systems will provide a default password when first set up. If these are not changed, this puts computers at risk. These passwords are stored by “Hackers” and are the first they try when attempting to break in to a system.

Misconfigured access rights: Access rights set up what can and cannot be seen when someone logs into a system. If these are not set up correctly in an email server, a person may be able to see someone else’s emails. If a person accesses an account that they do not have permission to see, they might be breaking the law. “Hackers” can use this access to collect data from higher ups in companies or your login details to access your accounts.

Cyber Threats – Continued

Unpatched and/or outdated software: These updates will always be one step behind the people creating the malware, but regularly updating and patching software will reduce the vulnerability of a computer system.

Removable media: Removable media refers to USB sticks or External hard drives being used to store malware or viruses and then plugged into a host PC and then release upon the system. “Hackers” will use this to access a physical PC. This means they need to physically be with the PC to use this method!



Scan this with your phone to take you to the Thinct.com page on [E-safety](#)

Computer Science – Cyber Security - Term 1

Viruses

A virus is a piece of malware that infects a computer, and then replicates itself to be passed onto another computer.

Anti-virus software holds a large database of known viruses. If a program that is installing, or file that is being opened, appears to be similar to one of these, the anti-virus software will warn the user and, depending on the type of anti-virus, place all related files into a secure folder until it is confirmed that it is safe.

Trojans

A Trojan appears to be a piece of harmless software, often given away for free, that contains malicious code hidden inside. This only appears once the gifted software is installed. It was named after the Greek myth of the Trojan horse.

Ransomware

Ransomware hijacks the data on a computer system by encrypting it and demanding that the owners pay money for it to be decrypted.

Having up-to-date anti-virus software and educating users to not open suspicious attachments will help protect from ransomware.

Spyware

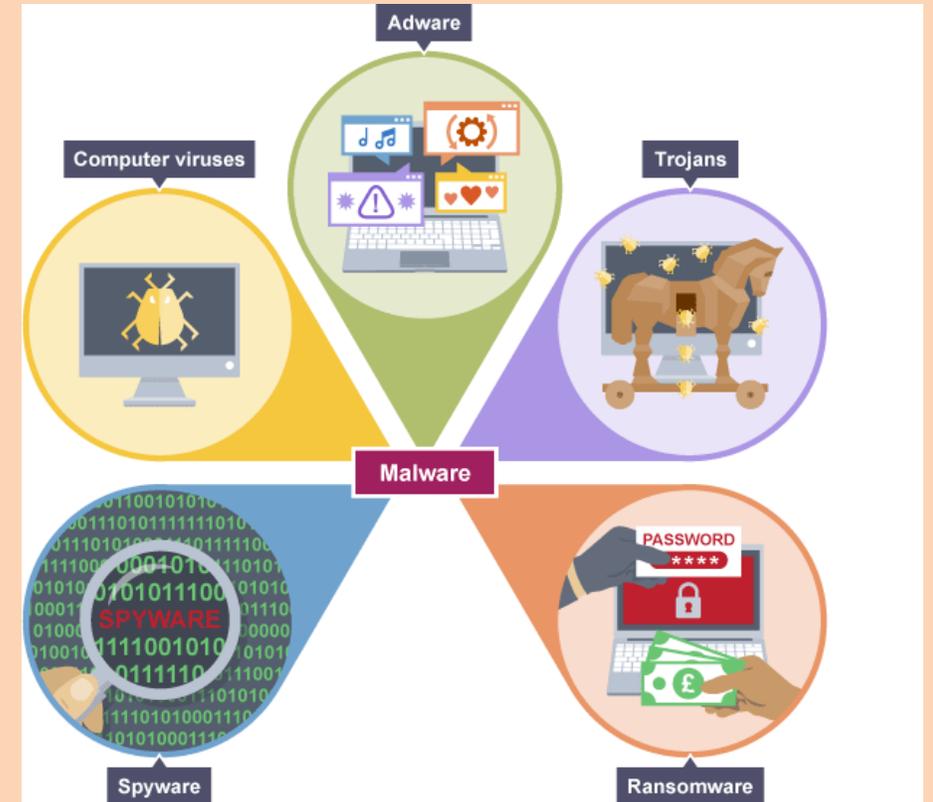
Spyware is a type of malware that collects the activity on a computer system and sends the data it collects to another person without the owner being aware.

If a computer has been infected by spyware, it could be sending back everything that is typed, or the sites that are visited, or even where the user is clicking on their screen. Spyware that records what is being typed is known as a keylogger. Keyloggers attempt to find out usernames and passwords by collecting everything that is entered into the system, which allows the hacker to search for personal data.

Most anti-virus software will also look for spyware in the same way as viruses. Specialist anti-spyware software is also available.

Adware

Adware is software that either causes pop-ups or windows that will not close. Generally, the pop-ups or windows display advertisements. Many anti-virus programs will detect and prevent adware infecting a computer system, but specialist anti-adware programs also exist.



Scan this with your phone to take you to the Thinct.com page on [E-safety](#)

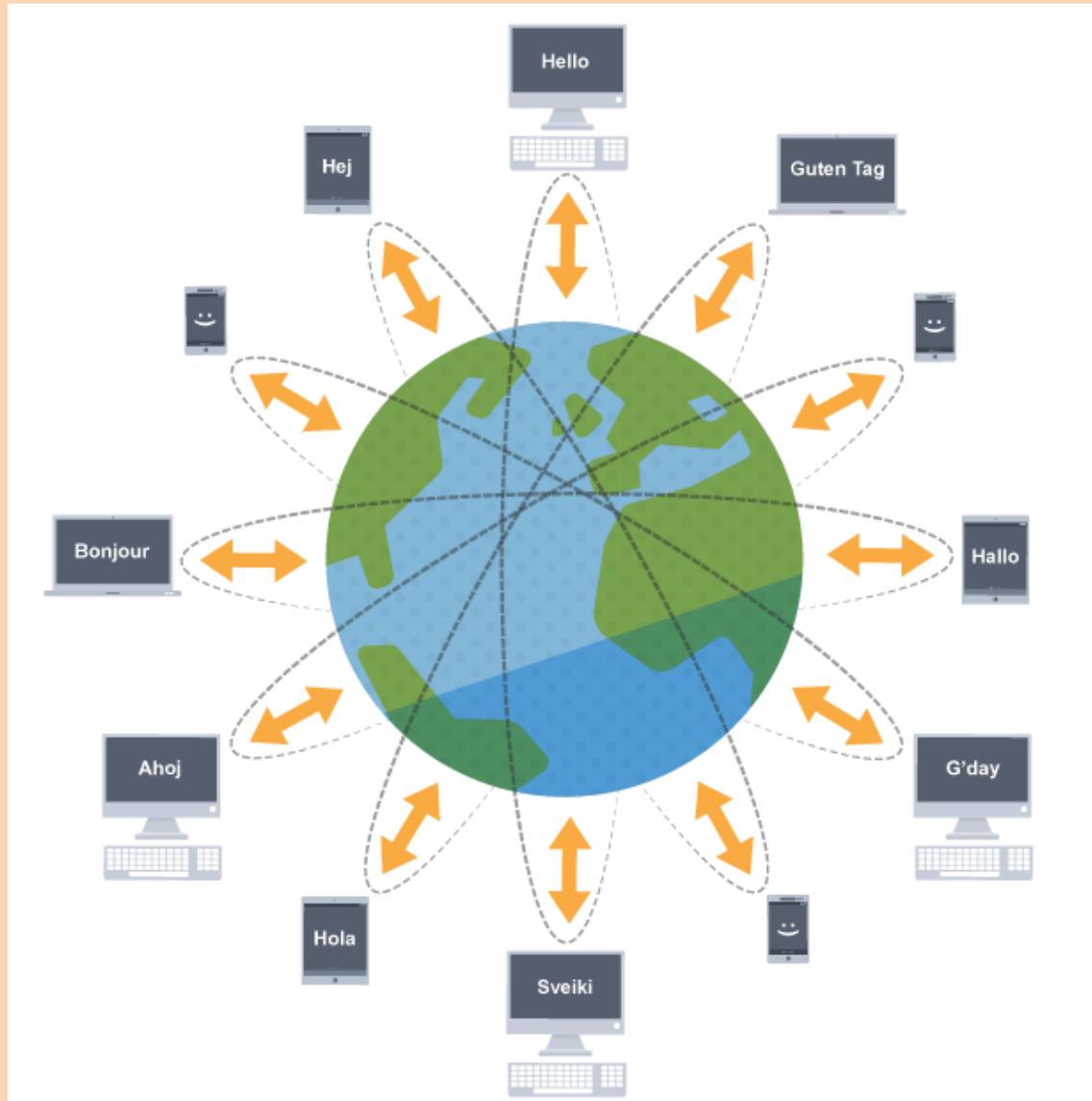
Computer Science – Networking - Term 2

What is a network?

A network is **two or more computers** (or other electronic devices) that are connected together, usually by cables or Wi-Fi.

Some computer networks will have a server. A server is a powerful computer that often acts as a central hub for services in a network, e.g. emails, internet access and file storage. Each computer connected to a server is called a client.

A computer that is not connected to a network is called a **standalone computer**.



What are the benefits of a network?

Using a network allows you to share:

- **hardware, such as a printer**
- **software, allowing multiple users to run the same programs on different computers**
- **data, so that other people can access shared work and you can access your data from any computer on the network**

Networking is critical if you want to use your computer to communicate. Without it you couldn't send an email, a text or an instant message.

We use a huge network on a daily basis and this is called the **internet**. Around three billion people use the internet to share data, news and resources, amongst many other things.

What problems can occur with a network?

If we connect computers or devices together in a network we can expose ourselves to some problems.

If the network breaks, this can make a number of tasks it is used for quite difficult. For example, it might not be possible to share photographs and opinions with friends.

If computers and devices are networked together, we can expose ourselves to **hackers** and **viruses**. Most viruses are spread over a network and most hackers use a network to access other people's computers. Without a network connection, a hacker would have to physically get to your computer.

Computer Science – Networking - Term 2

Types of network

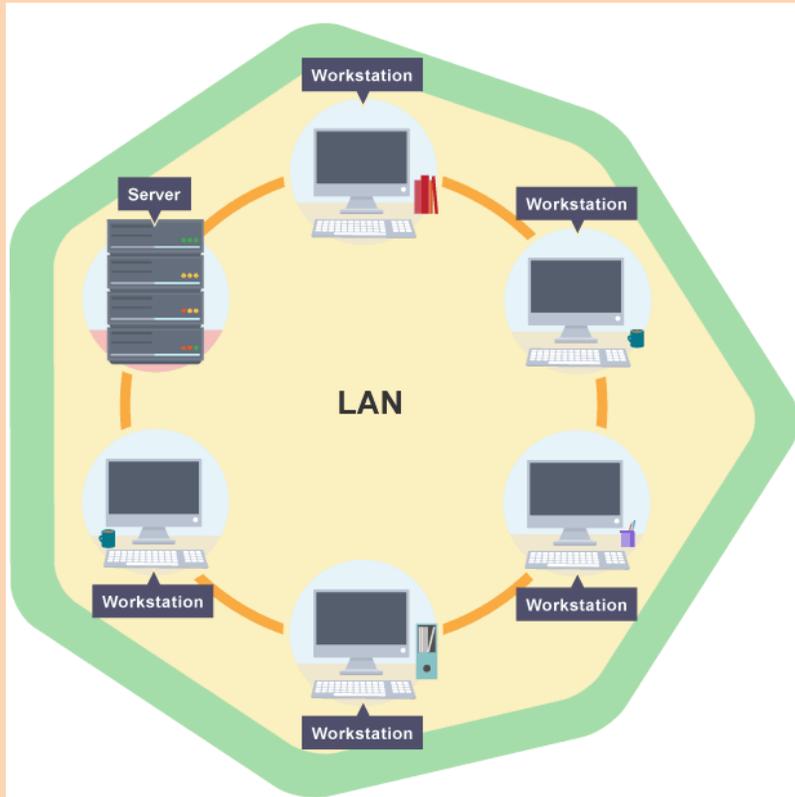
There are two main types of network:

- a local area network (**LAN**)
- a wide area network (**WAN**)

Local area network (LAN)

There are two main types of network:

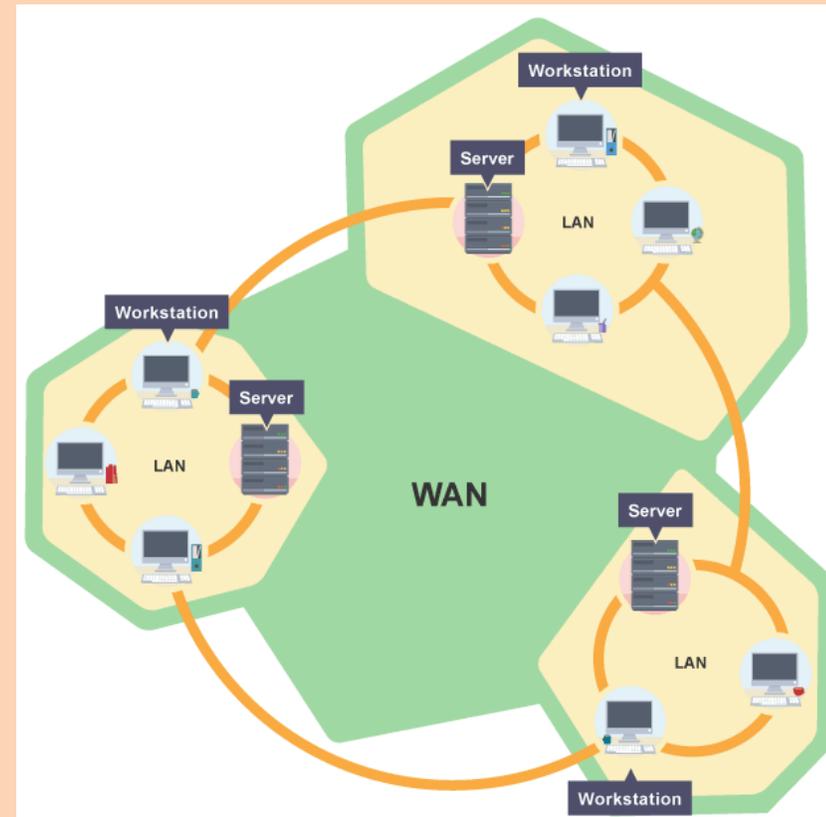
A **local area network** is when computers or devices are connected together over a **small geographical area**, such as within a home, a building or one site. A LAN can be created to share **data** or **hardware** such as a printer, or to share an internet connection.



Wide area network (WAN)

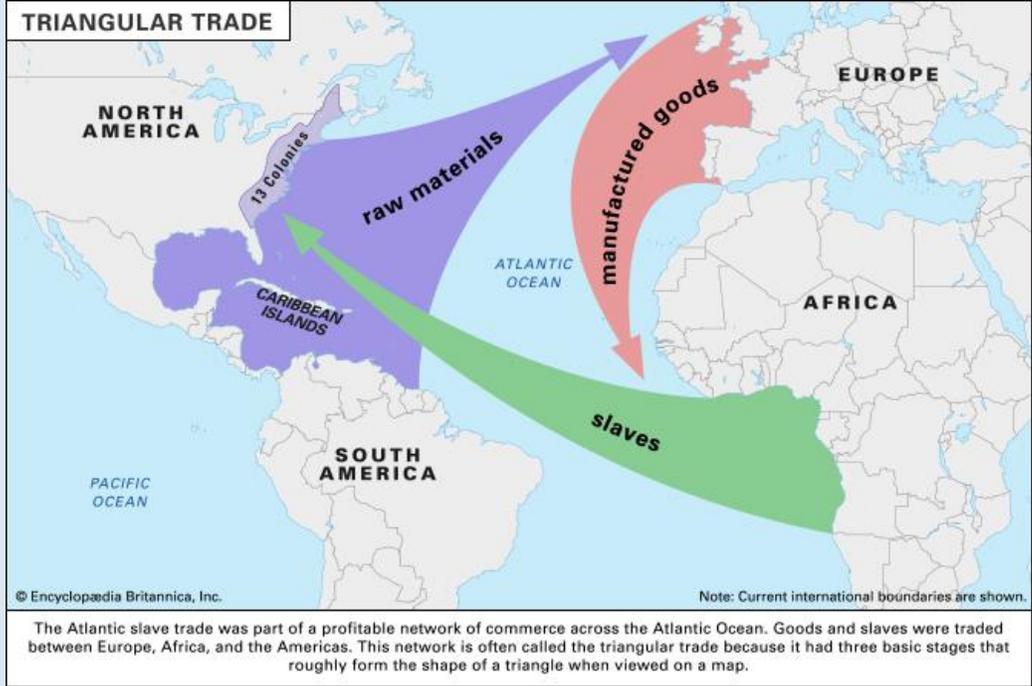
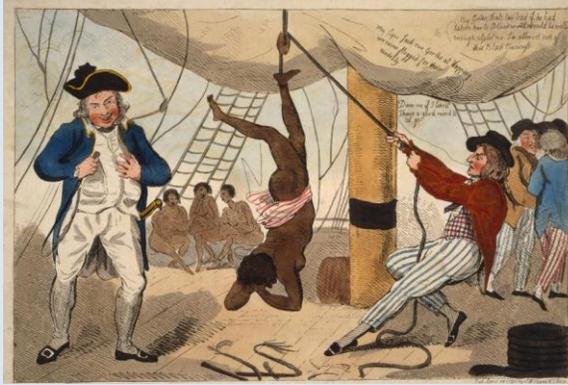
A wide area network is when computers or devices are connected together over a large geographical area. For example, a company with an office in London and another in Beijing would use a WAN to allow the employees to share one network. Some companies will connect a number of LANs in different areas together to create a WAN.

The biggest WAN we know is the internet.



Y9 History Term 1 – Transatlantic Slave Trade

Between the 16th and 19th centuries, European merchants transported an estimated 12.5 million Africans across the Atlantic to work in slavery in the Americas. Unknown millions died as a result.



Term	Definition
Slave Trade Triangle	A three part trading journey. 1. European ships took cloth, guns, iron pots, swords to Africa and exchanged them for African slaves. 2. Ships loaded with slaves crossed the Atlantic to America where they were sold. 3. Ships loaded with sugar, cotton, tobacco returned to Europe.
Dysentery	A nasty form of diarrhoea killed many Africans on the journey.
Middle passage	The journey of slaves on ships from Africa to America. Took 8-12 weeks. 1 in 4 died on the way.
Transatlantic	Going across the Atlantic ocean
Abolitionist	Someone who campaigned to end the slave trade
Plantation	A large farm on which crops such as coffee, sugar and tobacco were grown.
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
Slave	A person who is the property of another and is forced to work for little or no reward.
Auction	Slaves were sold to the highest bidder.
Underground Railroad	The network of routes that helped slaves escape. 'Conductors' helped the slaves who were referred to as 'passengers' to escape. Between 40,000 and 100,000 slaves managed to escape to the northern states of America or Canada using the Underground Railroad.
Jim Crow Laws	Slaves had been banned from reading and writing. Laws said they had to pass a test before they could vote. This stopped them voting. Blacks could not mix freely with whites. From 1896 it was legal to keep Black and White people separate.
Abolition	The action of abolishing a system, practice, or institution



60 second video on the triangular trade



Why did Britain enter the Transatlantic Slave Trade?

In the mid-16th century, **John Hawkins** was given permission by Queen Elizabeth I to start capturing Portuguese slave ships and transport the slaves to the colonies in North America.



In 1670s that Britain officially joined the Transatlantic Slave Trade with the **Royal African Company**. This group of merchants, including future King James II, shipped over 60,000 slaves to the colonies in the Carribean/America



From 1700 onwards, **Britain became an powerful trading nation with a growing empire** which included the Thirteen Colonies (North America and the West Indies (Caribbean e.g. Jamaica and Barbados).

The empire **provided Britain with valuable resources such as sugar, cotton and tobacco** that could be traded for huge profits. The plantations (large farms) in American and the West Indies constantly needed more workers, to grow and farm more and more crops. Therefore **Africans, who were seen as racially inferior (below whites), began to be shipped in large quantities to work for free, as slaves, on the plantations**. Therefore, money drove Britain's involvement in the Transatlantic Slave Trade.

By the mid 1700s, **Britain dominated the Transatlantic Slave Trade** and eventually over 3.1 million slaves were transported across the Atlantic.



The British Empire in 1713, Colonies = ■

Key Events

1562

Sir John Hawkins was given permission by Elizabeth I to begin transporting captured African slaves to America. There they were sold . He is called the “father of the slave trade”.

1781

The Zong massacre was the killing of 133 African slaves by the crew of the British slave ship Zong. They were thrown overboard so that the ship owner could claim compensation from his insurance.

1804

Haiti was named by slaves who had rebelled against their masters led by Toussaint Louverture.

1807

The Slave Trade was abolished in England.

1833

slavery was abolished in the British Empire.

1865

Slavery was abolished in America.

1960's

Black Americans still do not have equality with white Americans. Martin Luther King campaigned to change this.

2009

Barack Obama was elected as the first African American to be elected President of America.

Key Individuals



Olaudah Equiano

A slave who bought his freedom and published a description of life as a slave. He became an anti slavery campaigner.



Harriet Tubman

She was born a slave in 1820 in Maryland. In 1849 she ran away. The Underground Railroad helped her to reach Canada. She became a conductor and made 19 journeys back to Maryland to help slaves escape. She led 300 people to safety.



William Wilberforce

A British MP and abolitionist who campaigned against the slave trade.

British Empire

Key Words

Empire	A group of countries, people or land controlled and ruled by one single powerful country
Colony	A country that is part of an Empire
Commonwealth	A group of countries with a shared loyalty or government
Mutiny	A rebellion against the authority within the military
Imperial	Belonging to an Empire
East India Company	British company formed to trade in the Indian Ocean region. Conquered and colonised India, Pakistan, Bangladesh and Burma
Prejudice	Preconceived opinion not based on actual experience
Segregation	The act of separating certain groups
Indigenous	Naturally occurring in a place
Conquest	Taking control of a place through military force

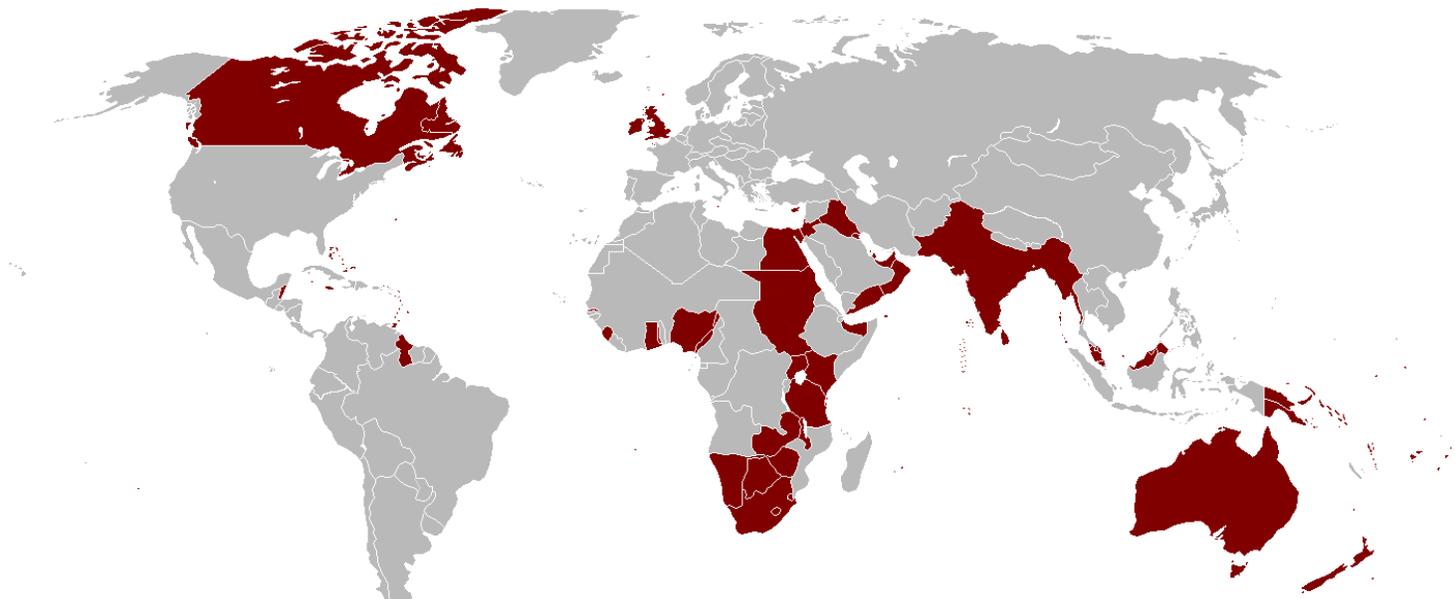
At it's peak in the 1920's the British Empire covered 13.71 million square miles (24% of the Earth's land, equivalent to 94% of the moon's surface)

Empire Phase 1: 17th Century to 1780's

Founded on sugar plantations in the West Indies, settlers to American colonies and the Caribbean and profited from Slavery.

Empire Phase 2: 1850's to 20th Century

Power grab for India and Africa. Dominated by the East India Company



1922

Empire population = 458 million people

1/4 of world population



LARGEST EMPIRES IN HISTORY

MAX LAND AREA

33,700,000 km ²	BRITISH EMPIRE (1922)
33,000,000 km ²	MONGOL EMPIRE (1279)
22,800,000 km ²	RUSSIAN EMPIRE (1866)

BRITISH TERRITORY
REST OF THE WORLD



Social Reforms such as **Free School Meals, State Pensions, School Medical Services**, introduced due to Governments worry poor health of the working class would endanger Britain's ability to maintain it's Empire



Impact of British Empire on Britain



Language: Many English words have been taken from colonies. For example the word **zombie** comes from **West Africa**.

Scouts and Girl Guides created to help children aid with Empire



Britain's **economy** developed through Empire. Many **trading companies** today began during Empire, such as **Shell** and **Liberty of London**

Cricket was the most important game played around the Empire. Rules standardised to being Empire together



Fingerprinting first developed to control population in India



Quintessential British drink **tea** comes from **China**, and our current national dish is **Indian curry**



Moustaches became fashion for the Brits to distinguish themselves from Indians

British Empire

No single ruler or constitution. Relied on **cooperation of local authorities**.

Segregation: British established selves as superior race and often segregated people, for example in India.

Keeping Control

'Spoils of war' British soldiers motivated to keep control as parliamentary law allows goods to be taken if natives resist.



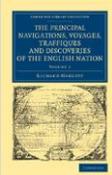
Strong military presence. **Royal Navy** 'ruled the waves' and acted as a deterrent to rebellions or invasions from other empires.

Rebellions harshly squashed and resistant natives often **massacred**. For example, 1951 Mau Mau massacre in Kenya around 20,000 killed following an uprising against treatment in British concentration camps.

Financial control. Took key resources from nations. Assert economic power over countries, controlling trade and taxes.

Egypt mostly controlled through financial dominance of the British.

Why did the British want an Empire?



Richard Hakluyt, Discoveries of the English Nation, 1598
 "No greater glory can be handed down than to conquer the barbarians, to recall the savages and barbarians to civility"

There were many **resources** in Africa, Asia and America, that Britain could use for themselves and profit.



Missionaries travelled Empire to try to 'help' other countries by converting them to Western and Christian ideas



Many people wanted the opportunity for travel and **exploration**



Slave Trade provided massive **profits** for England. **Royal African Company** transported on average 5,000 slaves a year.

1600, Queen Elizabeth signs charter to set up the East India Company

"hoping to break the Dutch monopoly of the spice trade"



What do Historians think about Empire?

"The empire was not a singular phenomenon, and indigenous people on the ground did not encounter "the empire": they encountered individuals. There were the brutal soldiers and traders, motivated by personal greed, careerism or racial theory – many more of them than we like to acknowledge; but there were also thousands of men and women who were unquestionably decent. The empire found places and uses for both.

British missionaries and colonial administrators did confront or end terrible practices, such as the ritual burning of widows in India and the superstitious killing of newborn twins in my native Nigeria. But the same empire, whenever it encountered indigenous resistance, acted with incredible brutality."



David Olusoga

1786 Governor of India, **Cornwallis**, implanted racial segregation in India and army.

1829 Hindu practice of **Sati** (wives sacrificing selves at husbands funerals) **banned**.

During British rule **life expectancy** in India dropped by 20% (Age 32), and poverty increased.

India



Trade: 1835 51,777,277 cloths sent from India to Britain.

1853 Railway network begins to be introduced in India.

Living in the British Empire

Australia



Between **1788** and **1868** more than 162,000 convicts were transported to Australia.

1838 Myall Creek massacre, **28** indigenous were brutally murdered. Parliament then appoints **'Protector of the Aborigines'**

Trade: Gold and Diamonds were exported from **South Africa**. Colony was taken as a **strategic trade point**.



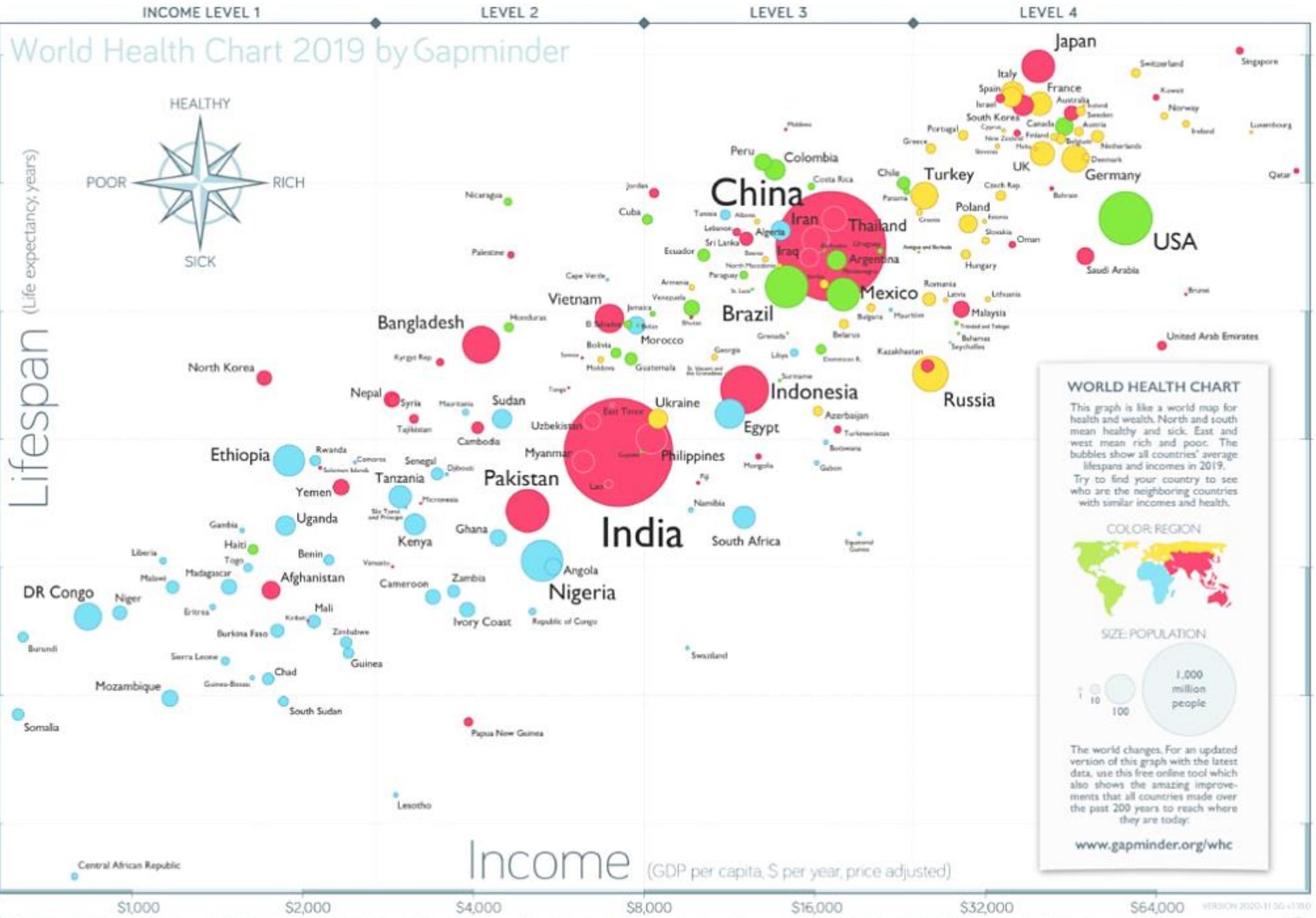
South Africa

Empire increased **diversity** in Britain. Many Asians lived and worked as **sailors** in **London**, as they were cheaper and harder working than many white sailors.

Britain

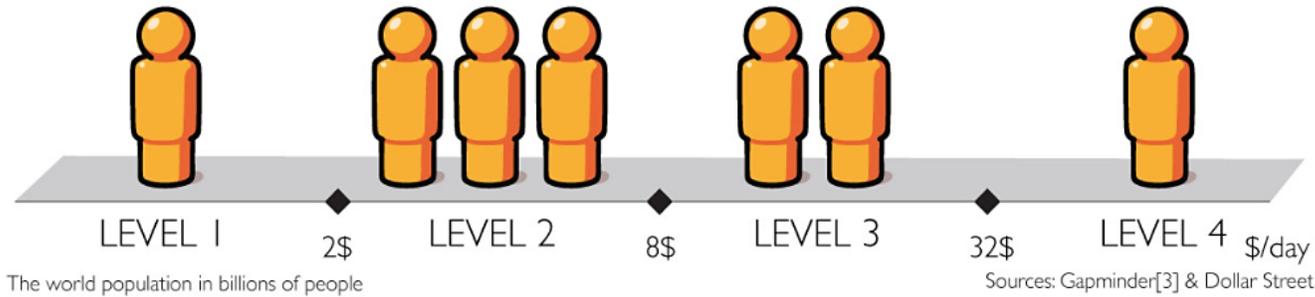


Many **Indian** and **Chinese women** were bought onto journeys to Britain to provide **childcare** and **domestic help** for wealthy white families on voyages. They were often left **abandoned** once arriving in England.



Is the world as bad as we think it is?

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.

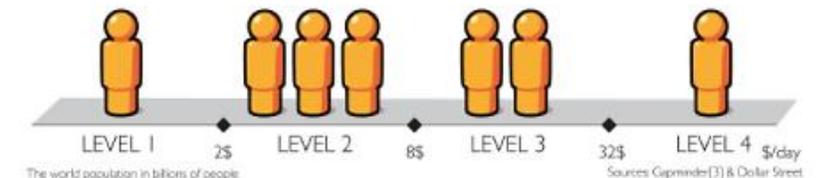
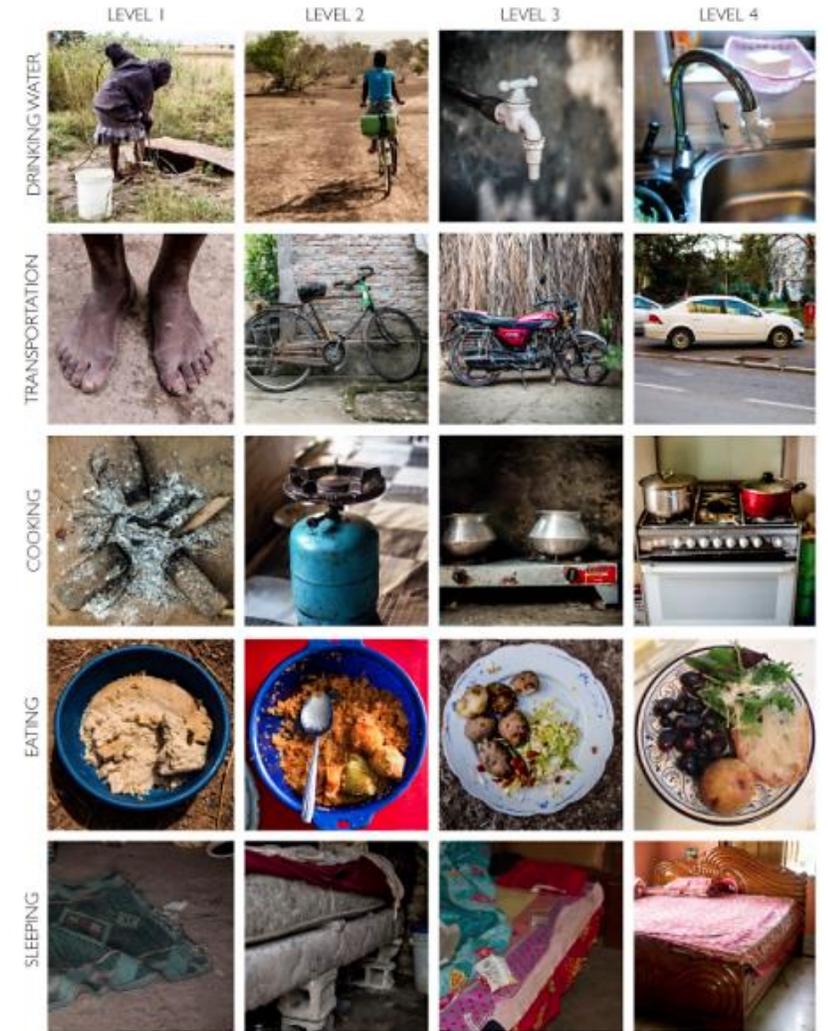
Level 3 is made up of people who live on between \$8 – \$32 per day.

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

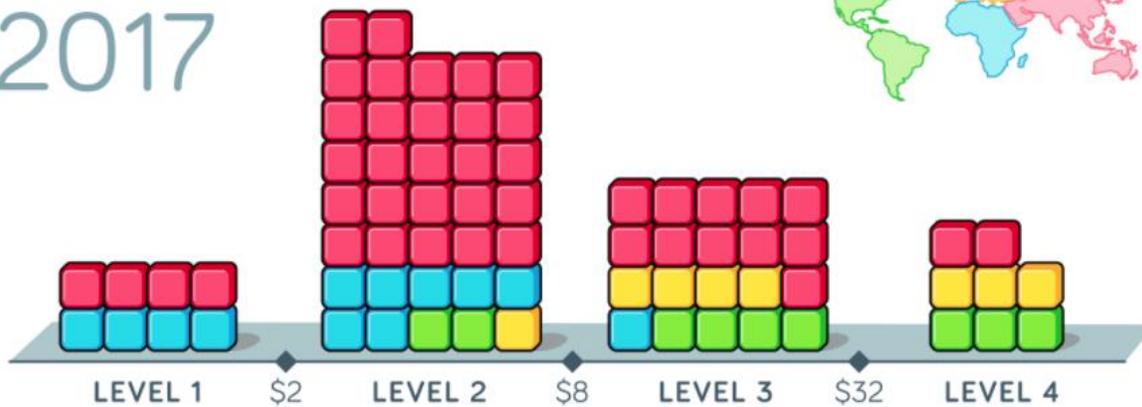
LIFE ON THE FOUR INCOME LEVELS



NUMBER OF PEOPLE BY INCOME AND REGION

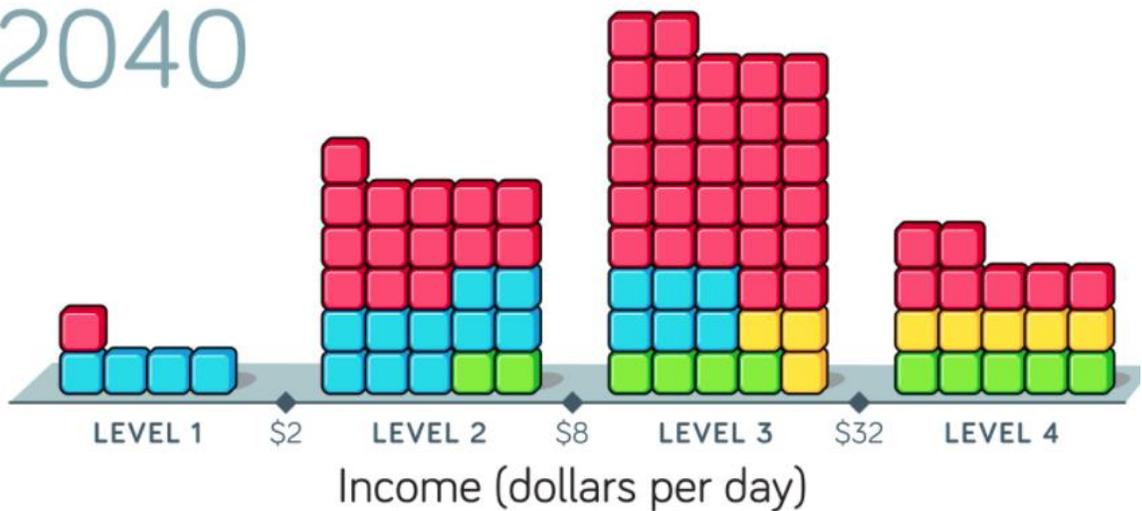
Each cube is 100 million people, colored by region.

2017

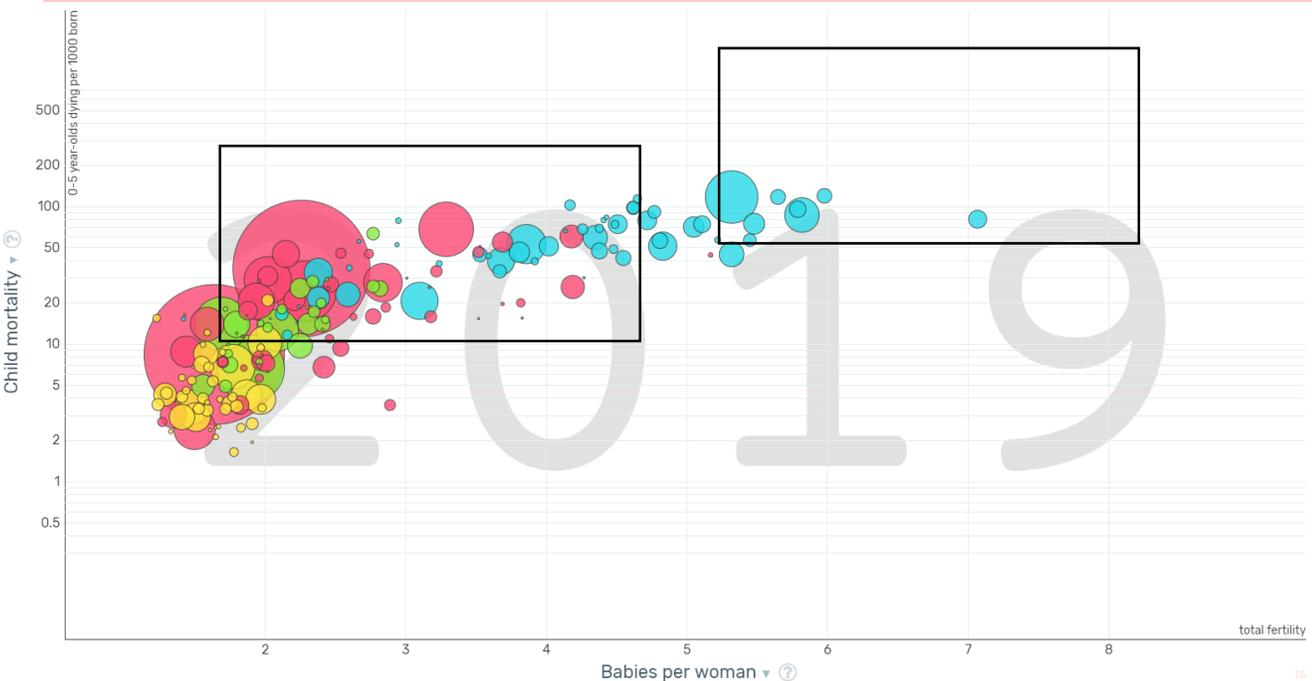
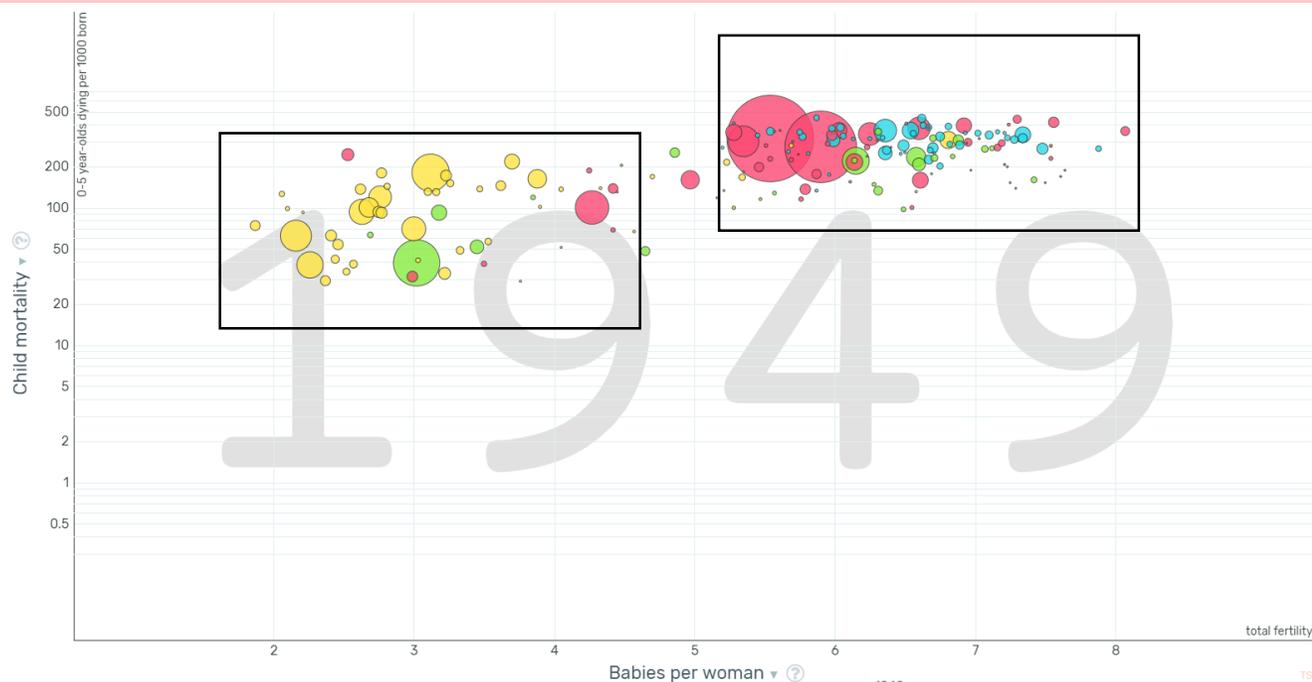


Assuming that current trends continue, this is what the world might look like in 2040.

2040



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



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:

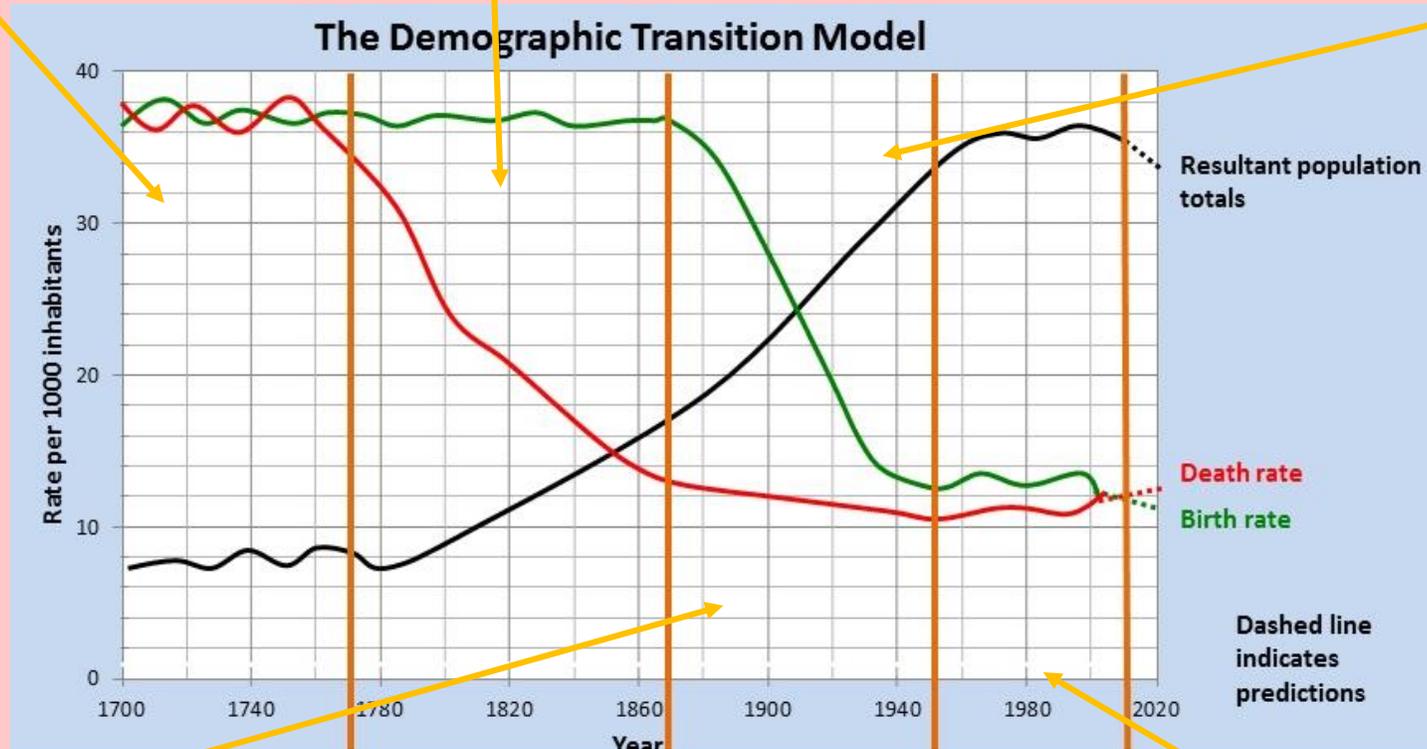
- Hides inequality of distribution
- Ignores all aspects of quality of life, eg well-being, education, life expectancy etc
- Does not acknowledge the cultural quality of life
- Does not count externalities - costs passed to others eg a polluting factory

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

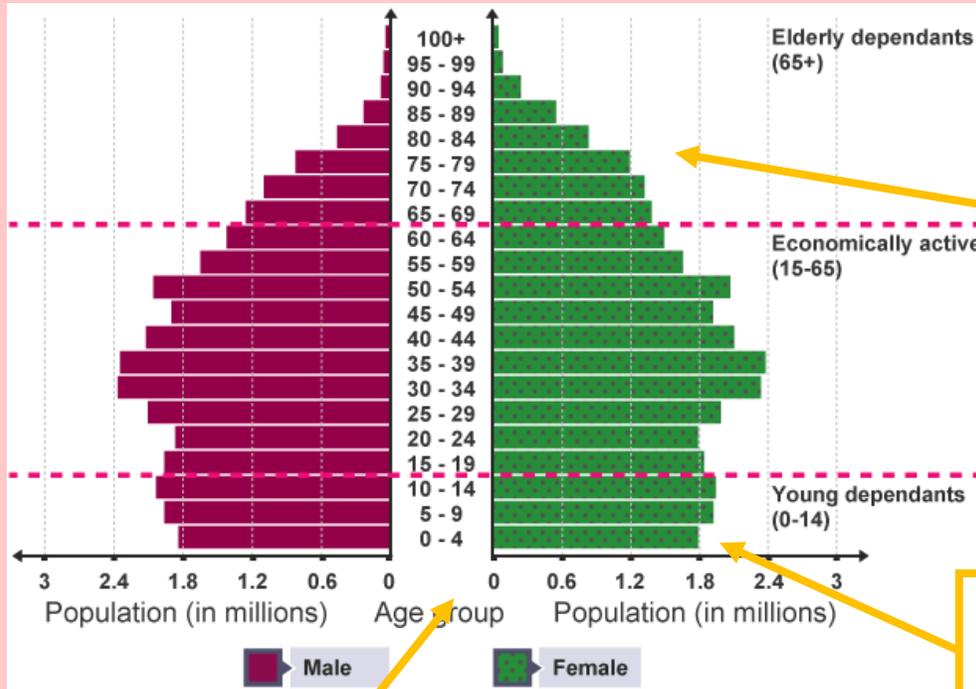


Stage 4
Birth Rate: Low
Death rate: Stay low
Population increase: Low
UK: Post 1940
Present Example: Canada

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.



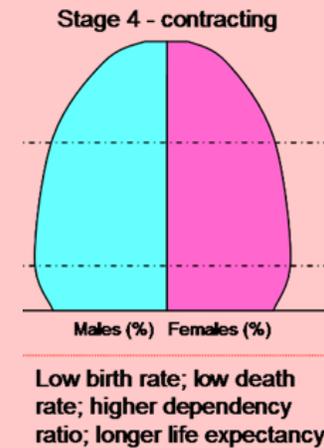
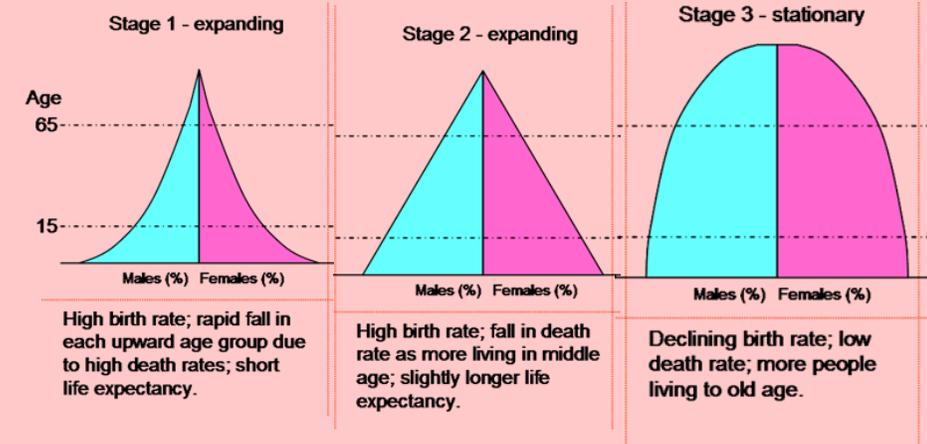
Some reasons for falling death rates include:

- 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

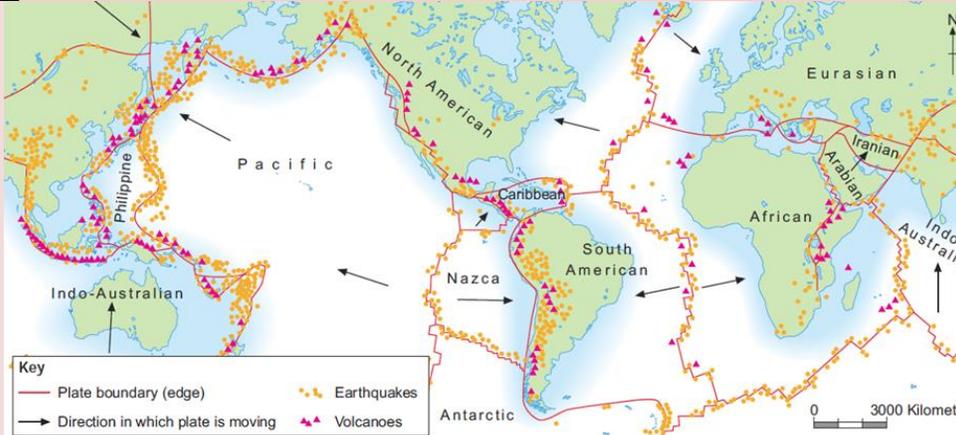
- A wide base means there are lots of young people, and suggests a high birth rate.
- A narrow base means a smaller proportion of young people, suggesting a low birth rate.
- A wide middle, tall pyramid means an ageing population, suggesting that there is a long life expectancy.



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.

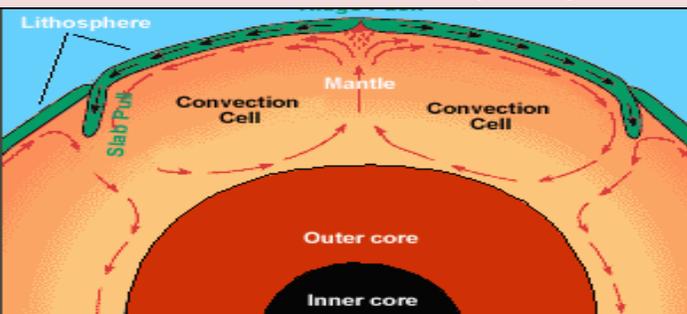


Global distribution

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

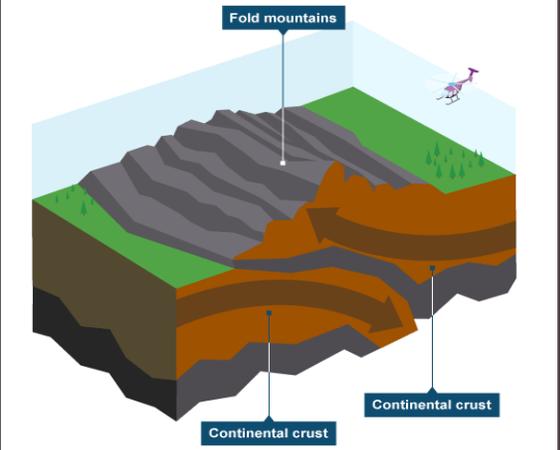


Types of plates

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.

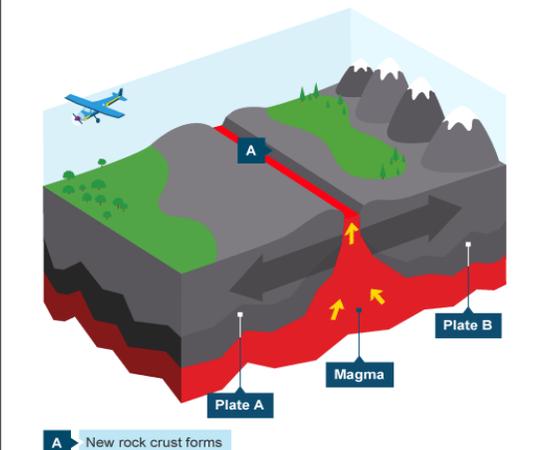
Collision plate boundary

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



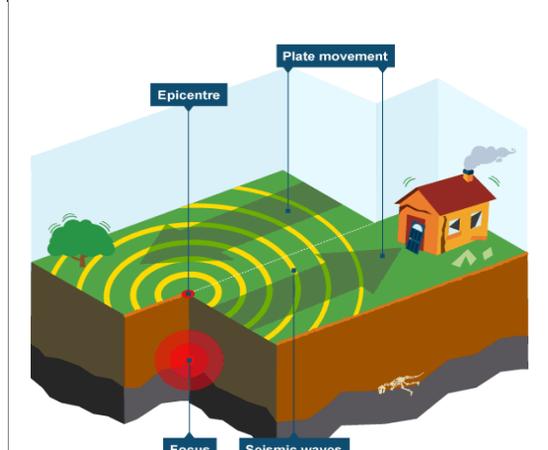
Constructive plate boundary

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



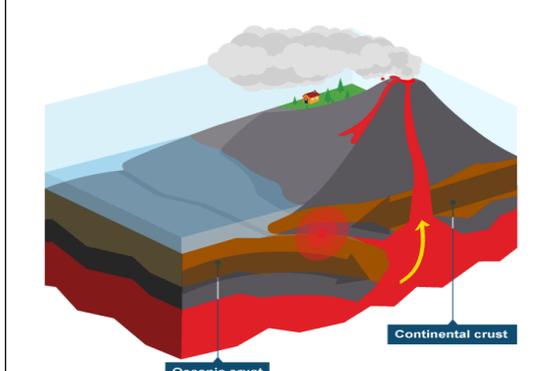
Conservative plate boundary

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

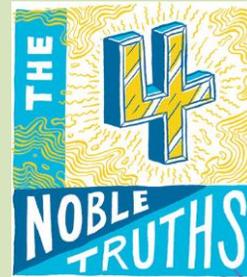
4 Noble Truths

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.

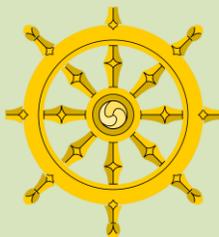
The 4 Noble Truths

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

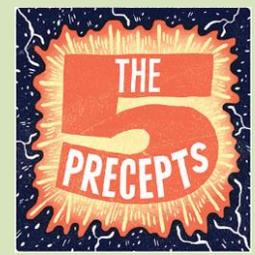
Middle Way
 3 marks of Life
 Anicca
 Anatta
 Dukkha
 Samsara
 Karma
 Nirvana
 The 5 Precepts
 The Eightfold path

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

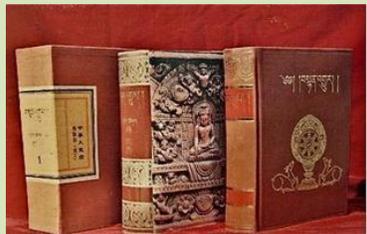
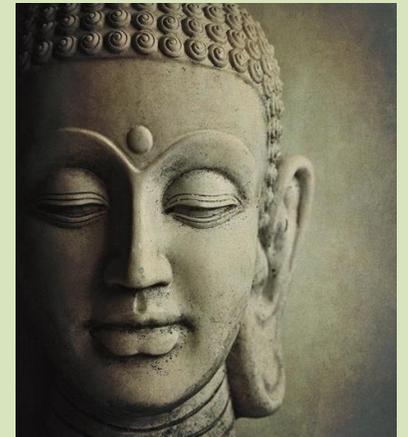
“Nothing is impermeable, strive on with awareness”

“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

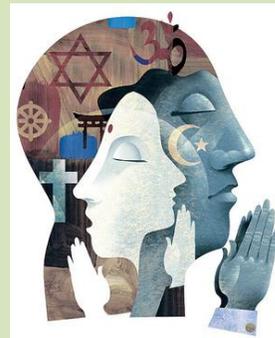
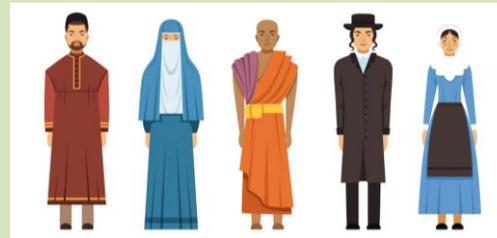
Freedom of religious expression - the right to worship, preach and practise one's faith in whatever way one chooses

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

You have the responsibility to respect the rights of others

NO ONE CAN TAKE AWAY ANY OF YOUR RIGHTS

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Islamophobia

Islamophobia is the **prejudice** against, hatred towards or fear of the religion **Islam or Muslims**

A recent Newsround survey of Muslim children revealed: 4 of every 10 Muslim children asked thought the news showed Islam in a bad way. 1 in 3 Muslim kids had been bullied, and 4 in 10 of those believed it was because of their religion. Nearly 7 out of 10 Muslim kids identified themselves as a Muslim rather than British.

The word "Islam" is derived from the word meaning "**peace**" in Arabic. Islam is a religion revealed to mankind with the intention of presenting a peaceful life where compassion to others is important.

"O You who believe! Enter absolutely into peace (Islam). Do not follow in the footsteps of Satan. He is an outright enemy to you." Quran.

Muslim terrorists have been **radicalised** and taken advantage of, by groups such as ISIS who are **NOT religious** and want to dominate, gain control and strike **FEAR** into the west.

They have been radicalised and indoctrinated to misinterpret their faith.

Jihad

Jihad means the struggle for Allah. Greater jihad is a Muslims inner spiritual struggle e.g. to follow Allah's wishes. Lesser Jihad is a Muslim's external struggle to preserve Islam for Allah. This is to defend Allah and Islam.

Muhammad said *"The best jihad is the word of justice in front of an oppressive ruler"*. This means that lesser Jihad should be used to fight for Muslims being oppressed in the world.

BVT: Human Rights

- Key vocabulary**
- Islamophobia
 - Prejudice
 - Jihad
 - Radicalisation
 - Hijab
 - Niqab
 - Burka



"Hijab" "Niqab" "Burka"

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

Muslim Women headscarf's

In the Qur'an it says that women should cover their modesty *"draw their veils over their body and not display their beauty except to their husbands and family"*. Qur'an

It does not suggest covering their face and many women choose not to even cover their head. It is a Muslim woman's choice and not forced upon her.



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

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 / Ilike)

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

no soporto

les.. películas policiacas, películas comicas, 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)

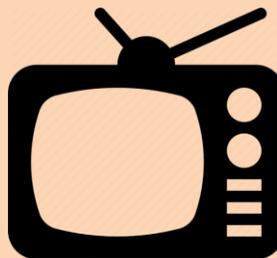
Lo encuentro (I found it...)

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 aba	com ía	decid ía
tú	habl abas	com ías	decid ías
él/ella	habl aba	com ía	decid ía
nosotros	habl ábamos	com íamos	decid íamos
vosotros	habl abais	com íais	decid íais
ellos/as	habl aban	com ían	decid ían

The three irregulars are:	Ser (to be)	Ir (to go)	Ver (to see)
yo	er a	ir a	ve ía
tú	er as	ir as	ve ías
él/ella	er a	ir a	ve ía
nosotros	er amos	ir amos	ve íamos
vosotros	er ais	ir ais	ve íais
ellos/as	er an	ir an	ve ían



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

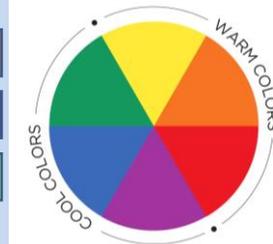
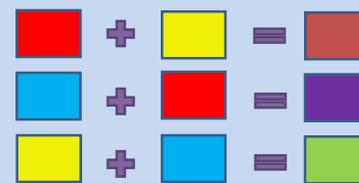
I can vary tone by...

- 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

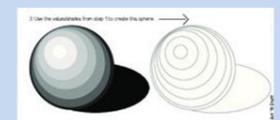
TONE

- 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.

Welcome to Year Nine Music at Trafalgar

Module Learning Objectives

“Dance music takes an explorative look into rhythm, chords and metre in a variety of different types, styles and genres of dance music. By exploring the characteristic musical features of dance music from different times and places”

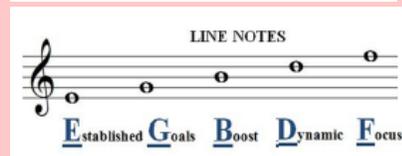
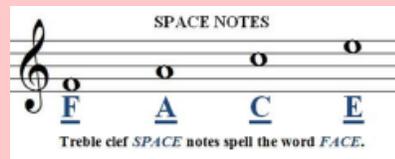
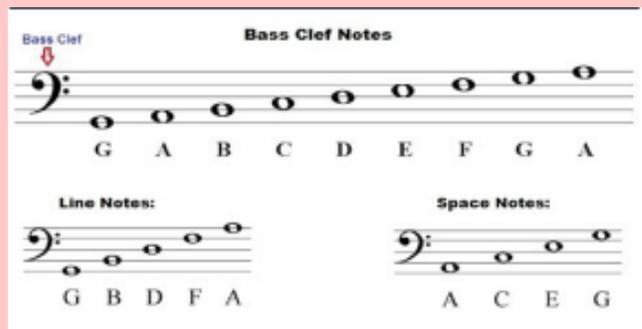
#Understand the connection between the steps, movement and formation of dances and the inter-related musical features within the music that accompanies them.

#Understand how different dance music genres use different time signatures and metres and how these relate to the dance.

#Understand how dance music is chiefly made up of primary chords, using chords I, IV, V, V7 and seventh chords in a range of simple major and minor keys.

#Understand how different dances use characteristic dance rhythms within their music.

#Describe the different accompaniment patterns and textures in dance music from different times and places.



Dance Music

Language for Learning/Music Theory

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.

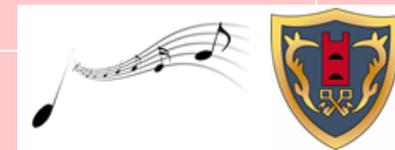
TIME SIGNATURE – Tells us how many beats (and what type of beats) there are in each bar of music and is made up of two numbers – the top numbers tells us how many beats and the bottom number tells us what types of beats.

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.



Exploring Rhythm, Chords
and Metre in Music for Dance



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.



Exploring Rhythm, Chords and Metre in Music for Dance

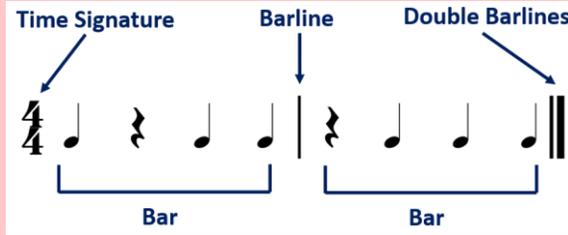
A. Pulse, Time and Metre in Dance Music

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 DUPLER 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



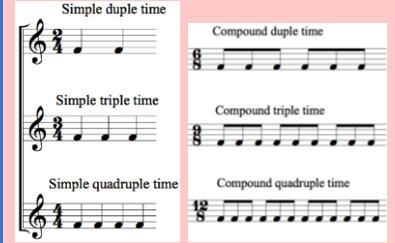
Dance music such as **WALTZES** and the **MINUET**, **COURANTE** and **SARABANDE** from the Baroque Dance Suite often use simple triple metre.

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

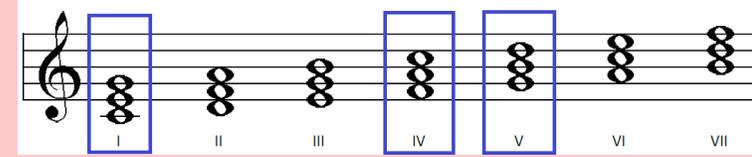


	Simple Time Signatures			Compound Time Signatures		
Duple Metre	2/4	3/8	6/8	6/8	6/4	6/16
Triple Metre	3/4	3/8	3/8	9/8	9/4	9/16
Quadruple Metre	4/4	4/2	4/8	12/8	12/4	12/16

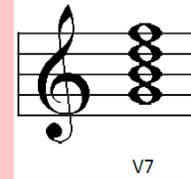
Dance music such as the **IRISH JIG** and the **GIGUE** from the Baroque Dance Suite often use compound duple metre (6/8) with a "ONE and a TWO and a" feel to the music.

D. Chords in Dance Music

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

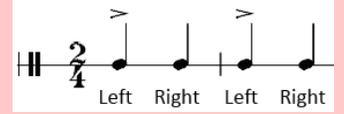


commonly used in dance music with **SEVENTH CHORDS** featuring in popular dance music such as **DISCO** and **CLUB DANCE** (adding a note seven notes above the root of a chord, such as and **DOMINANT SEVENTH CHORD**). All seventh chords have 4 notes. Chords are often performed in different ways as an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

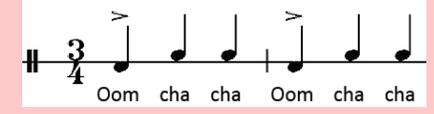


E. Characteristic Rhythms in Dance Music

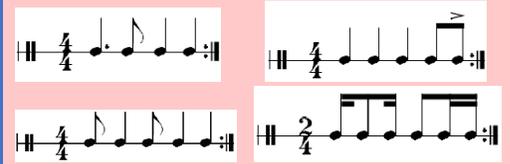
The **MARCH** has a strong **LEFT**, right, **LEFT**, right rhythm:



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 2nd 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

Module Learning Objectives

The unit investigates the purpose of film music and the decisions and challenges a composer of film music faces.

#How music can enhance the visual images and dramatic impact of film and can reflect the emotional and narrative messages of the drama.

#How timing is a crucial factor in the composition and performance of music for film.

#How film music can change the viewer's interpretation of a scene.

#How to create an effective musical narrative for a film scene, using appropriate techniques to create an intended effect.

Key terminology for Composing Film Music

homophonic: parts moving in chords

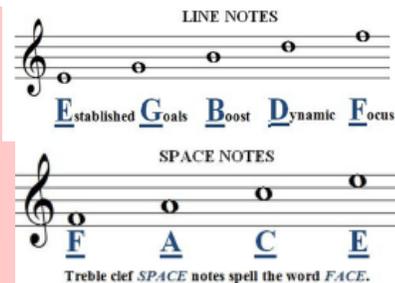
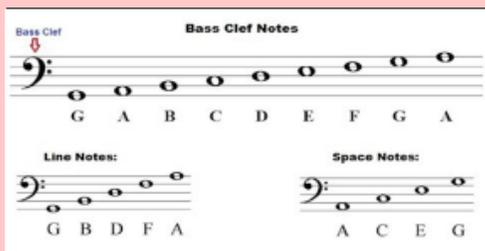
monophonic: single melody line

polyphonic / counterpoint: two or more melodies interweaving

Unison: many parts singing the same melody

canon: same melody repeated after overlapping

layered: loops building up over each other



Language for Learning/Music Theory

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.

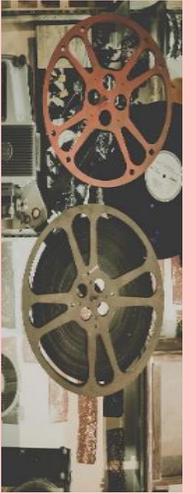
MICKEY-MOUSING – When the music fits precisely with a specific part of the action in a film e.g. cartoons.

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

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

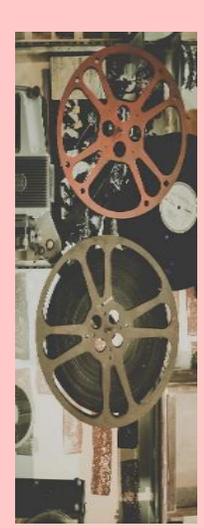
INTERVAL OF A FIFTH – Two notes which are 5 notes apart – often used by film music composers to create an empty feeling of outer-space in Sci-Fi soundtracks.

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.



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



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 CHARDS** 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’ wintry 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**.

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.

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 – 'To 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... How do 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.

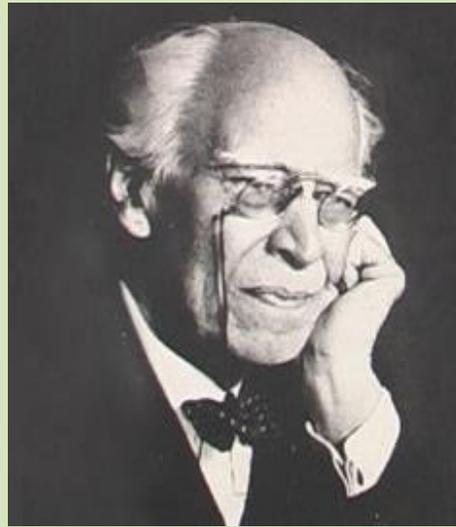
Montage

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:

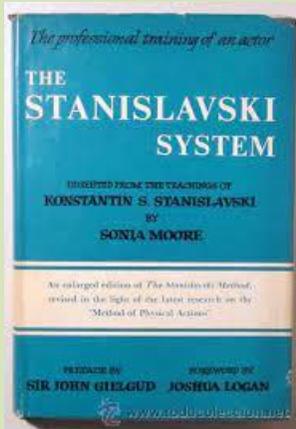
Emotion Memory

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 (**4th 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.

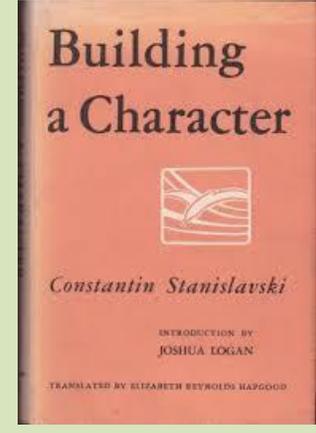
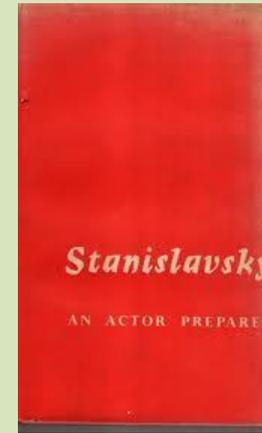
Sonia Moore's book is the clearest and most accessible book on Stanislavski's ideas on acting. It has recently been reprinted and is readily available



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

The chart below compares the two different aspects of an actors 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 !!!

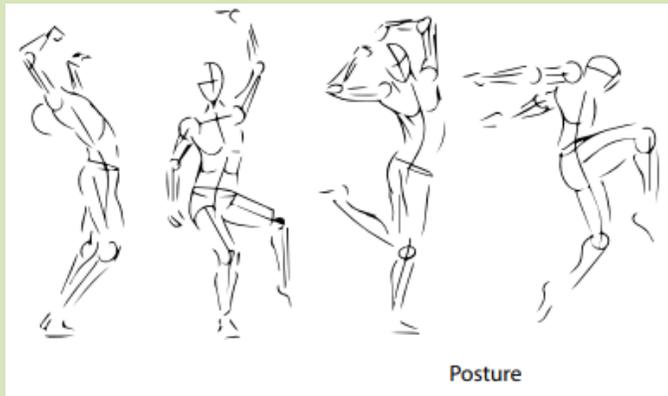
Working with others doesn't get any easier. Even though you know your classmates much better now, some may have different ideas to you, they still may not have any ideas at all, they might not listen to you etc. It can be tricky.. but it is an ideal opportunity for you to practise using your personal 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.

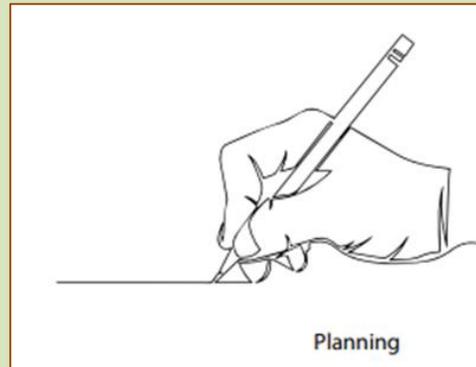
You will be assessed on your;

- 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 40 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

Health and Fitness



Physical Ability and Technique



Effort and Engagement

To ensure any sort of training improves your performance, you need to apply the principles of training.

Principles of Training:

Specificity	Training must match the requirements of the activity so that the right muscles and body systems are adapted
Progressive overload	Gradually increasing the amount of working training so that fitness gains occur.
Reversibility	Just as fitness improves with training it can decline if you stop training.
Tedium	This is the boredom that can occur when you train. A variety of training methods are needed to keep motivated to carry on without giving up.

Training intensities:

Max Heart rate: 220 - age

Aerobic target zone: 60% - 80% of MHR

Anaerobic training zone: 80% - 90% of MHR

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.

Fitness Testing

Before a training programme:

- To identify strengths and areas for improvement
- Identify training requirements
- To show a starting level of fitness
- To motivate and provide goals

During and after a training programme:

- To monitor improvement
- To provide variety to a training programme
- Compare results against norms of the group
- To identify whether training has been successful

Fitness Component	Fitness Test
Agility	Illinois agility test
Balance	Stork balance
Cardiovascular endurance	Multi stage fitness test
Coordination	Alternate hand throw
Flexibility	Sit and reach test
Muscular endurance	Abdominal bleep test
Power	Vertical jump test
Reaction time	Ruler drop test
Speed	30m sprint



Expectations
and Routines



Football



Physical Ability
and Technique



Skills Practice as part of the warm-up:

What skills would you include as part of your warm-up if the focus was on marking in Football?
How can you adapt your practice to make it harder or easier?

Basic Rules

1. Game is started by kicking the ball from the centre spot.
2. The game is played by 11 players made up of goalkeepers, defenders, midfielders and attackers.
3. Referee and two assistants will officiate the game.
4. If a ball goes over a touch line a throw in is taken. If an attacker kicks over the goal line it is goal kick and if a defender or goalkeeper kicks it over the goal line it is a corner.
5. To score the ball must cross the opposition's goal line.
6. The offside rule also applies where an attacker is in front of all opposing defenders when the ball is kicked.
7. Handball- It is forbidden to touch the ball from your finger tips to shoulder. Unless you are the goal keeper.

Game understanding:

- Why is it important to move the ball quickly when keeping possession?
- How can width be provided in different formations like 4-4-2, 4-3-3 or 5-3-2?
- What is zonal marking?
- How can we outwit our opponent at set plays?



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.
- 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.

Turning with the ball and outwitting a defender: Turning with the ball allows you to change direction using different techniques, such as dragging the ball back with the sole of your boot. Outwitting an opponent allows you to beat a defender using different techniques such as a step over.

Shooting: There are different types of shots that allow you to score goals. Your instep can be used to control and place the ball into the goal. If you use your laces then this allows more power to be produced.

Heading: Used in attack and defence. Defensive headers aim for distance and moving the ball away from central positions.

Tackling: Techniques – tackling, jockeying and forcing the player onto their weaker foot.

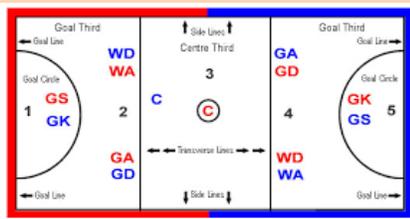
Strategies and Tactics:

Attacking: Using the width is very important when attacking. It is important teams keep possession and play one and two touch to move the ball quickly. Also, another effective strategy is to 'switch' the play using a lofted pass. To keep possession some teams may use the depth of the pitch to keep possession and build an attack.

Defending: Players are normally marked man to man, but can be marked zonally from corners. It is also important that defenders keep a good line, which may allow them to play the opposition offside. This also means the defending team isn't too deep near their goal.



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*



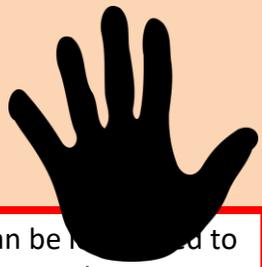
Expectations and Routines



Rugby



Physical Ability and Technique



Effort and Engagement

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?

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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- Always have the correct PE kit.
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- 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

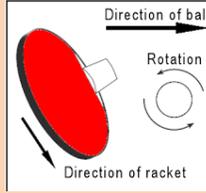
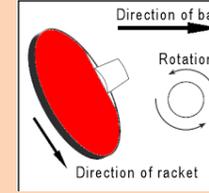
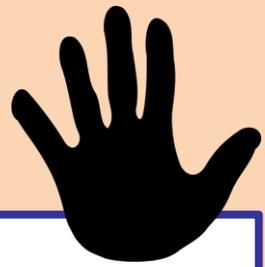


Table Tennis



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.
- 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.

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

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

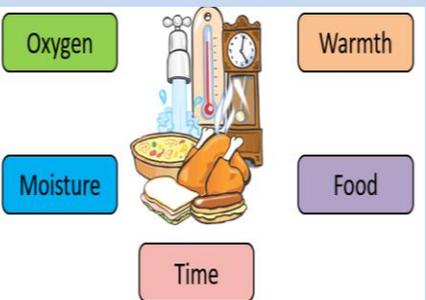
Macronutrients which are needed by the body in large amounts.
Micronutrients which are needed by the body in small amounts.

Macronutrients

Micronutrients

Food Poisoning

Living organisms (including bacteria) need certain “things” or conditions to survive:



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
Carbohydrate	The main source of energy for the body.	Bread, rice, pasta, potatoes
Protein	Provides the body with growth and repair.	Meat, poultry, beans, eggs, lentils, tofu, fish
Fat	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
A	Helps to keep the eyes healthy and strengthen the immune system.	Dark green leafy vegetables, carrots, liver
B	Helps to release the energy from the food we eat.	Bread, milk, cereals, fish, meat
C	Help with skin healing and healthy skin. Help with the absorption of Iron.	Fresh fruit, broccoli, tomatoes
D	Important for absorbing calcium and help with healthy bone structure	Oily fish, eggs, butter, Sunshine
Mineral	Role in the body	Food Examples
Calcium	Important for strong teeth and bones. It also helps with blood clotting.	Milk, yoghurt, soya, dark green leafy vegetables
Iron	Needed for red blood cells which help to transport oxygen around the body.	Nuts, whole grains, dark green leafy vegetables, meat, liver

Hygiene



Personal

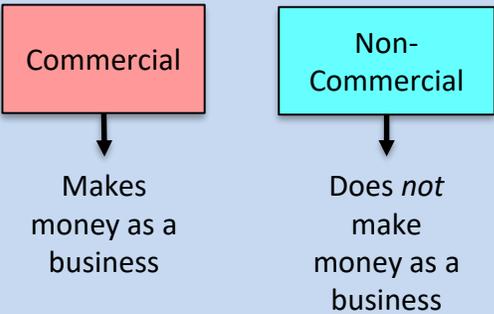
Hair up – Reduces the risk of bacteria transferring to food through hair dropping in
Aprons on – Protects you from spillages and reduces risk of bacteria transferring to food from everyday clothing
Washing hands - regularly using hot soapy water to reduce the bacteria on your hands
Blue plasters – Blue 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

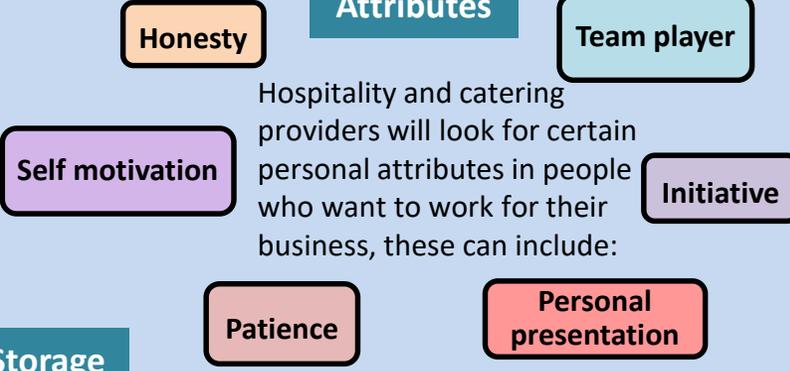
Cooking – thorough cooking kills bacteria so ensure food is cooked to 75°C to make sure all bacteria are killed – check this by using a food probe.
Cleaning – effective cleaning removes harmful bacteria and stops them spreading so ensure all work tops, utensils and equipment are cleaned thoroughly with 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



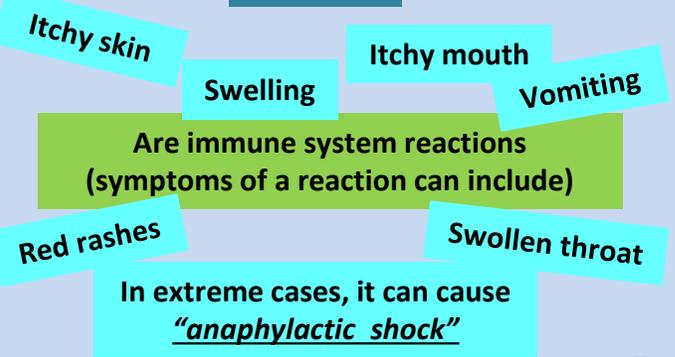
Personal Attributes



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

Allergies



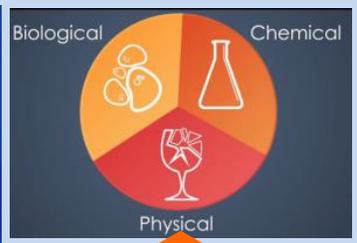
Fridge Storage

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.

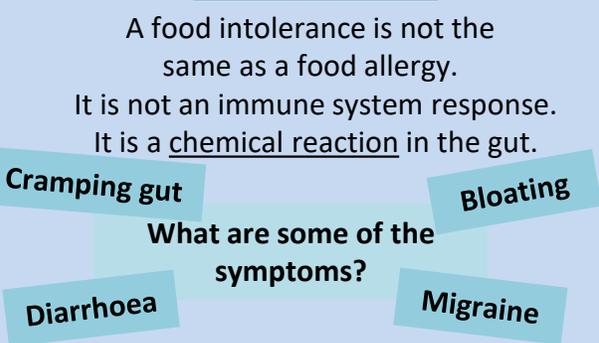


Understand the 4 C's Concept

- 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



Intolerances



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



A profile showing what particular groups of people want, need and expect.

Year 9 Design Technology Knowledge Organiser – Spatial and Interior Design:

Retail Store Design

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.

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 Raffiold
- Zoffany
- Sam Wilde



EXISTING STORE RESEARCH



Think **Different.**

Once you have chosen the brand you will be designing your store based upon it is vital to research their existing stores. This enables us to gain a clear knowledge and understanding of their branding choices which include colour palettes, concepts, materials and product displays.

KEY TERMS

DEFINITION

Design Process

An approach for breaking down a large project into manageable chunks.

Target Audience

A particular group at which a product is aimed towards.

Design Brief

Outlines the specifics of a design project which can include the design project overview, timelines, target audience information, and budget.

Research

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.

Colour Theory

The collection of rules and guidelines which designers use to communicate with users through appealing colour schemes in visual interfaces.

Mood board

An arrangement of images, materials, pieces of text, etc. intended to present a particular style or concept.

Evaluation

Is a process that critically examines a design.

Modelling

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 .

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.

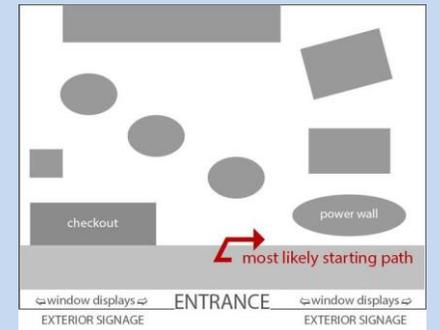
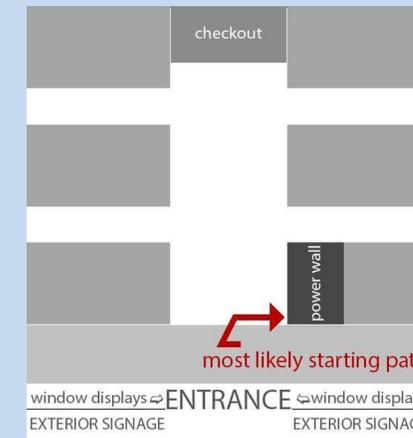
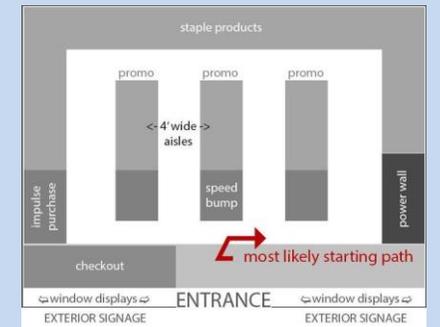


Interior Design Considerations in Retail Store Design

- 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

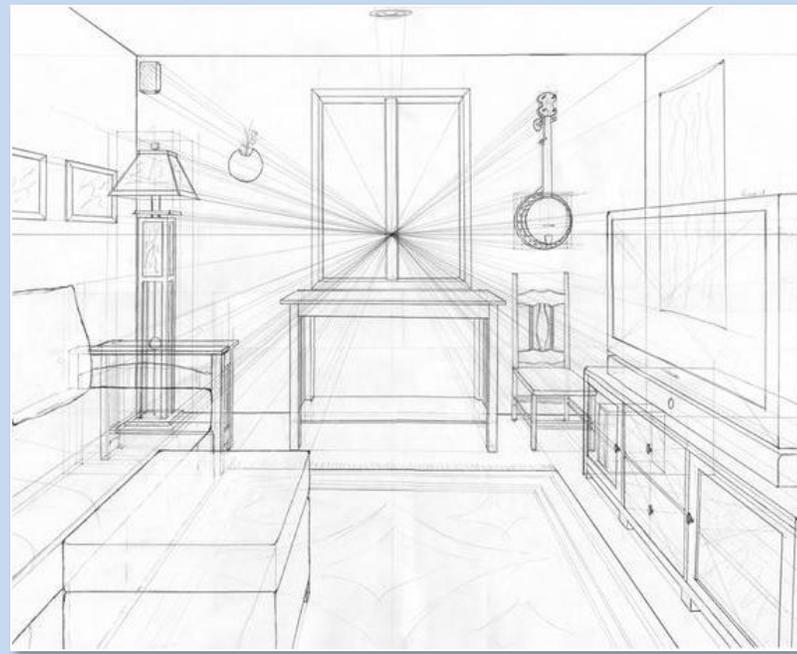
A mood board is a visual representation of ideas for a design project. At its most basic, a mood board is a collage of images. The purpose of a mood board is to help explore ideas and figure out the general style, mood, colours, and overall feel of a room or project space.



MODERN, LIGHTS, NEON, MINIMAL, CITY, URBAN

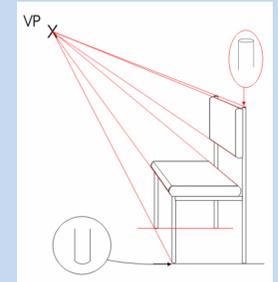
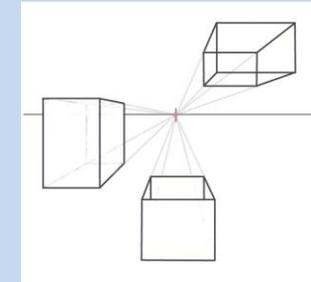


ORGANIC, NATURAL, WOOD, RUSTIC, COUNTRY



ONE POINT PERSPECTIVE

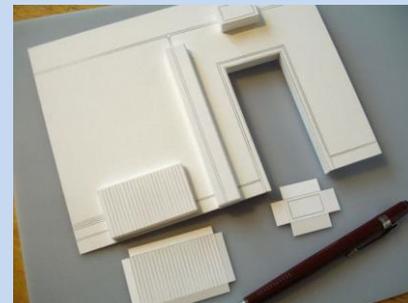
One point perspective is a drawing method that shows how things appear to get smaller as they get further away, converging towards a single 'vanishing point' on the horizon line. It is a way of drawing objects upon a flat piece of paper (or other drawing surface) so that they look three-dimensional and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



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.

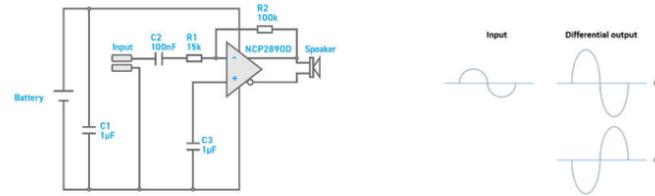
How the Amplifier Works

At the centre of the circuit is an audio amplifier Integrated Circuit or IC. Inside the IC are lots of transistors, which are connected together to allow the small input signal to be amplified into a more powerful output that can drive a speaker.

All amplifiers need to use feedback to ensure the amount of gain stays the same. This allows the output to be an exact copy of the input just bigger. The gain is the number of times bigger the output is compared to the input, so if an amplifier has a gain of 10 and there is 1 volt on the input there will be 10 volts on the output. Before looking at how the feedback works, we first need to understand how a standard amplifier works. An operational amplifier has two inputs these are called the inverting (-) and non-inverting (+) inputs. The output of the operational amplifier is the voltage on the non-inverting input less the voltage on the inverting input multiplied by the amplifiers gain. In theory an operational amplifier has unlimited gain so if the non-inverting input is a fraction higher than the inverting input (there is more + than -) the output will go up to the supply voltage. Change the inputs around and the output will go to zero volts. In this format the operational amplifier is acting as a comparator, it compares the two inputs and changes the output accordingly.

With an infinite gain the amplifier is not good to amplify audio, which is where the feedback comes in. By making one of the inputs a percentage of the output the gain can be fixed, which allows the output to be a copy of the input but bigger. Now when the two inputs are compared and the output is adjusted, instead of it going up or down until it reaches 0 volts or $V+$, it stops at the point when the two inputs match and the output is at the required voltage.

Looking at the circuit diagram for the audio amplifier, R2 is the feedback resistor. For a standard (single ended) amplifier the gain would be calculated by $R2 / R1$, giving a gain of $100k / 15k = 6.66$. However this amplifier is a differential amplifier, which means the second output is an inverted version of the first output (see diagram below) and results in twice the gain, so the overall gain is 13.33



The rest of the components are needed as follows:

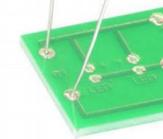
C1 is connected across the supply to make sure that it remains stable.

C2 forms a high pass filter, with R1, to block DC voltages which could damage the amplifier.

C3 provides a controlled start to the amplifier, to prevent speaker damage.

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.



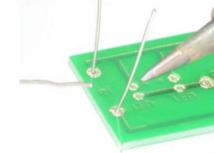
2 CLEAN SOLDERING IRON

Make sure the soldering iron has warmed up. If necessary use a brass soldering iron cleaner or damp sponge to clean the tip.



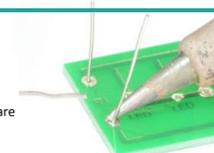
3 PICKUP IRON AND SOLDER

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.



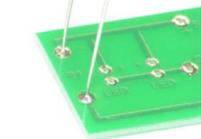
5 APPLY SOLDER

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.

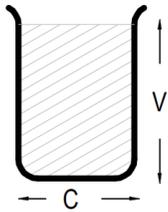


8 REPEAT

Repeat this process for each solder joint required.



What is a capacitor?

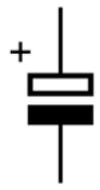
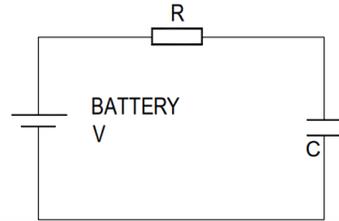
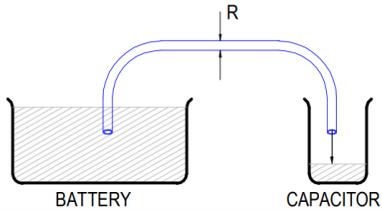


A capacitor is a component that can store electrical charge (electricity). In many ways, it is like a rechargeable battery.

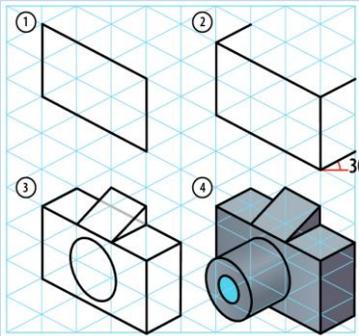
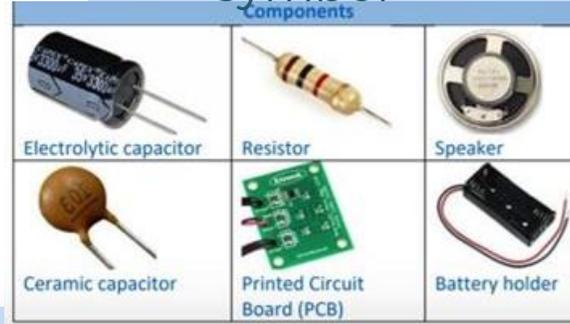
A good way to imagine a capacitor is as a bucket, where the size of the base of the bucket is equivalent to the capacitance (C) of the capacitor and the height of the bucket is equal to its voltage rating (V).

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



Capacitance
or
circuit
symbol



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.

Picture	Description	Voltage	Capacity	Estimated life	Max power
	Polymer Lithium Ion Cell	3.7 V	400 mAh	2 days	0.7 W
	Polymer Lithium Ion Cell	3.7 V	1000 mAh	5 days	0.7 W
	2x AAA	3V	1000 mAh	7 days	0.45W
	3x AAA	4.5 V	1000 mAh	4.5 days	1 W
	2X AA	3V	1500mAh	10 days	0.45W
	3x AA	4.5 V	1500 mAh	6 days	1 W
	3x C cell	4.5 V	3000 mAh	13 days	1 W

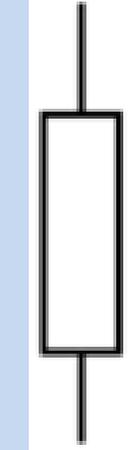
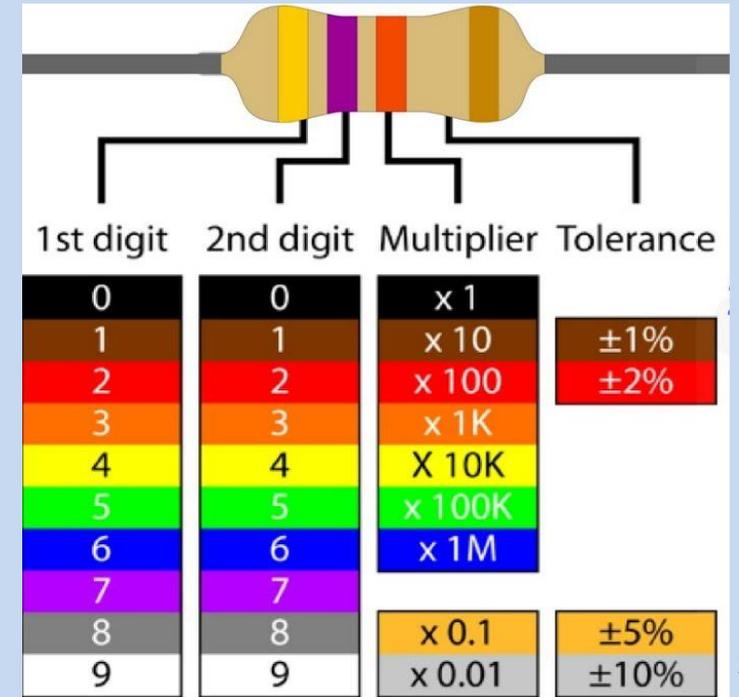
You will have to decide which of these is most important and select your choice of batteries accordingly:

- Compact case.
- Higher volume.
- Long battery life.

Please note that the estimated battery life has been calculated running the amplifier on standard alkaline batteries at full power, hence the higher power choices have a shorter battery life. Obviously if you don't run your MP3 player at the maximum volume, the batteries will last longer.

Resistor Values

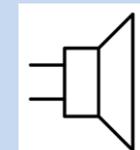
A resistor is a device that opposes the flow of electrical current. The bigger the value of a resistor, the more it opposes the current flow. The value of a resistor is given in Ω (ohms) and is often referred to as its 'resistance'.



Resistor
or
circuit
symbol

Alternating current supplied to the loudspeaker creates sound waves in the following way:

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



Speaker
circuit

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"> Weak: there is no mechanical strength, just the glue Not aesthetically pleasing
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"> Holds a shelf or divider securely in the middle of a carcass (frame) Pairs well with corner lap joints 	<ul style="list-style-type: none"> Can be tricky to cut neatly on a wide board Very accurate marking out and cutting required to ensure a shelf is exactly level
Mitre		<ul style="list-style-type: none"> Looks good because no end grain shows Good for picture frames 	Weak, it is only a butt joint at 45°
Mortise and tenon		<ul style="list-style-type: none"> A strong joint Good for joining a table or chair frame to legs 	Time consuming to cut by hand
Dovetail		<ul style="list-style-type: none"> A very strong joint – the dovetails lock together securely Good for a drawer front that will get pulled hard 	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

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.	

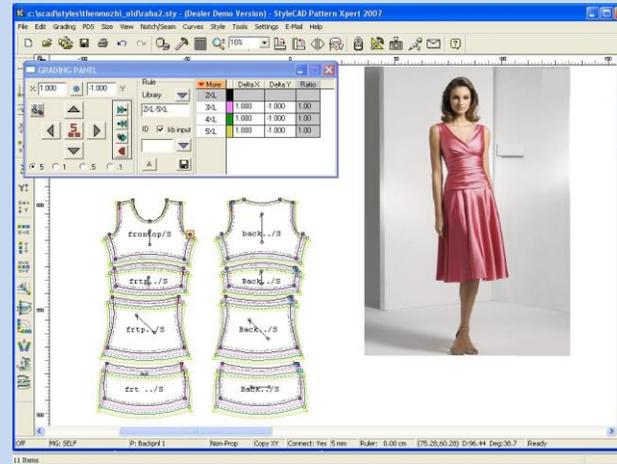
If you are designing products and they are made in another country you need to talk to the factory ALL the time.

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.

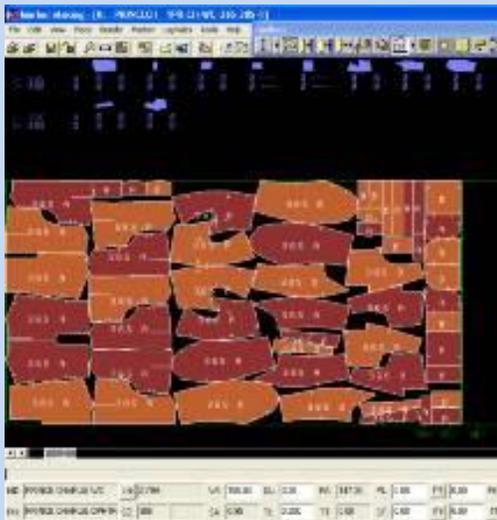


Cutting out of materials



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 client [client: person or organisation that wants a product manufactured - eg a retailer.]; the garment design is developed from a basic block pattern [basic block pattern: pattern made with standard-sized pattern pieces] and a toile [toile: a prototype garment made from low-cost fabric.] is made to test the fabric drape, the fit [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 Heat	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 UV light	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) Heat or electricity	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 REPEL 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) Light	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
Polylactic acid PLA	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
Polyhydrox y-butyrate PHB Biopol	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.
Flexible MDF	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.
Titanium	High strength to weight ratio, anti-corrosive, can be easily formed and welded, hypoallergenic.	Jewellery and watches, medical uses such as joint and dental implants, aircraft, spacecraft and sports car parts.
Fibre optics	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
Graphene	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.
Metal foams	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.

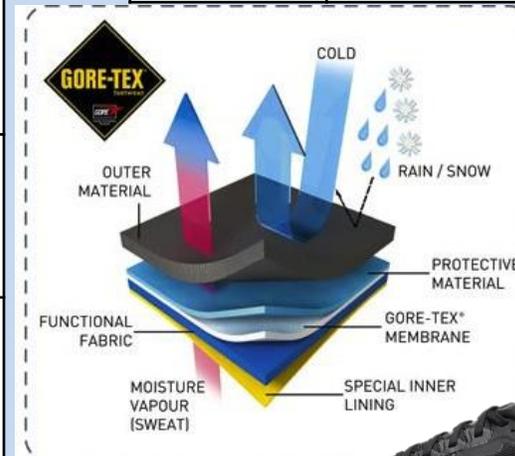
Technical textiles are textiles that have been developed with enhanced properties to withstand specific uses.

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
Gore-Tex	Waterproof, wind proof, breathable fabric, moisture vapour can escape.	Outdoor clothing from skiwear to mountain wear, walking boots, cross country trainers, gloves sportswear.
Kevlar Poly-paraphenylene terephthalamide	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.
Conductive fabrics and threads	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.
Fire resistant fabrics	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.
Microfibres & Micro-encapsulation	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.

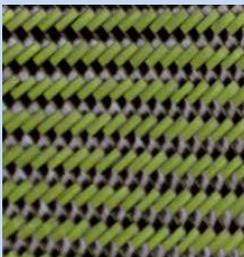
Name	Characteristics	Uses
Glass Reinforced Plastic (GRP)	Lightweight, good strength to weight ratio, good corrosion, chemical and heat resistance, waterproof, high VOCs/resins used. Can be trimmed with rotating blade. Labour intensive to produce.	Boat hulls, car and truck parts, liquid storage tanks, pipes, helmets, seating.
Carbon-fibre reinforced plastic.	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



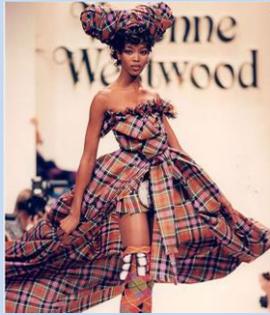
Design Culture

GCSE Preparation.

"Design creates culture. Culture shapes values. Values determine the future." Robert L Peters.

Vivienne Westwood (1941-Present)

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.



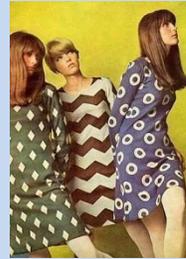
Coco Chanel (1883-1971)

A fashion designer known for introducing practical casual-chic clothing for women who had traditionally worn corsets and long skirts.



Mary Quant (1934-Present)

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.



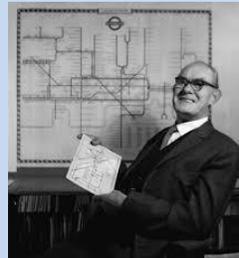
Alexander McQueen (1969-2010)

An influential fashion designer known for his theatrical, well tailored clothing and dramatic catwalk presentation displaying his collections.



Harry Beck (1902-1974)

He redesigned the London Underground map in the 1930's. It's simplified layout made it a huge success and maps of many other transport networks now use Beck's style.



Marcel Breuer (1902-1981)

A modernist architect and furniture designer. Some of his best works include- tubular steel furniture and concrete sculpted buildings.



Norman Foster (1935-Present)

Architect famous for creating the Millennium Bridge, Gherkin London and Wembley Stadium.



William Morris (1834-1896)

A wallpaper, furniture and furnishings designer. His designs were often based on nature.



Aldo Rossi (1931-1997)

An architect who published work on architectural theory. He also worked for the company Alessi.



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. Other ways to avoid are-

- Collaboration
- Honest feedback
- Focusing on new solutions
- Using fresh approaches



**Design
is where
science &
art break
even.**
— Robin Mahway

You can also annotate your designs to fully explain further using ACCESSFM

A=Aesthetics

C=Cost

C=Customer

E=Environment

S=Size

S=Safety

F=Function

M=Materials

- 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.

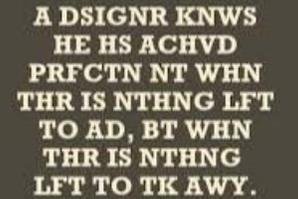
- Products can be designed to avoid having a negative impact on other people by being sensitive to their needs.

Design is so simple.

That's why it's so complicated



**DESIGN
WON'T
SAVE THE
WORLD**
BUT IT DAMN SURE
MAKES IT LOOK GOOD



A DESIGNER KNOWS
HE HAS ACHIEVED
PERFECTION NOT WHEN
THERE IS NOTHING LEFT
TO ADD, BUT WHEN
THERE IS NOTHING
LEFT TO TAKE AWAY.

-Antoine de Saint-Exupery



ARCHITECTURE
is inhabited
SCULPTURE



"DON'T DESIGN FOR
BRANDS. DESIGN FOR
PEOPLE INTERACTING
WITH BRANDS."

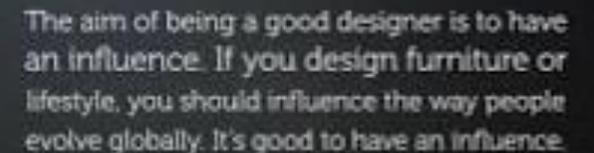
**design is thinking for
improvement, forever**



**Design is the silent
ambassador of
your brand.**



'SIMPLICITY
IS
PERFECTION'

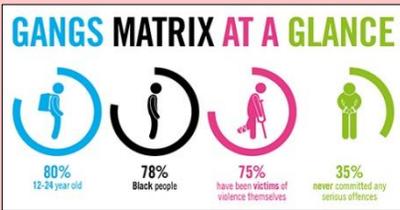


The aim of being a good designer is to have an influence. If you design furniture or lifestyle, you should influence the way people evolve globally. It's good to have an influence.

Year 9 PSHCE Term 1 Peer pressure, Gangs, Grooming and radicalisation.

Quote from Jo Cox MP's maiden speech to Parliament which inspired the #MoreInCommon movement after she was killed by a far right extremist.

"We are far more united and have far more in common with each other than things that divide us."



COUNTY LINES: KNOW THE SIGNS

Any child is at risk of criminal exploitation by county lines drug gangs. It's important that we all know the signs to look out for so we can safeguard our children from harm.

- 1 INCREASED PHONE ACTIVITY**
A child who is caught up in county lines drug gangs may be seen to use their phone excessively, when someone calls or texts or sends them a lot of messages that are not theirs. This may be a sign of a child being groomed or exploited.
- 2 UNEXPLAINED INJURIES**
A child who is caught up in county lines drug gangs may be seen to have unexplained injuries, such as bruising, cuts or scratches. These may be the result of a child being exploited or groomed.
- 3 CHANGE IN MOOD**
The way a child is feeling or acting may change. They may become withdrawn, stop talking to friends, or start to act aggressively. They may also become more confident and happy, or more confident than before.
- 4 GANG ASSOCIATIONS**
Children who are caught up in county lines drug gangs may be seen to have friends who are not theirs, or to be hanging out with people who are not their friends.
- 5 NEW EXPENSIVE POSSESSIONS**
Children who are caught up in county lines drug gangs may be seen to have expensive possessions, such as mobile phones, laptops, or cars. These may be the result of a child being exploited or groomed.
- 6 MISSING FROM HOME**
Children who are caught up in county lines drug gangs may be seen to go missing from home for a number of days at a time. They may be taken to another location, or they may be taken to a location where they are being exploited or groomed.
- 7 INCREASE IN ANTI SOCIAL BEHAVIOUR**
A child who is caught up in county lines drug gangs may be seen to have a change in their behaviour, such as being more confident, or more confident than before.
- 8 DECLINE IN SCHOOL GRADES**
Children who are caught up in county lines drug gangs may be seen to have a decline in their school grades. This may be the result of a child being exploited or groomed.

If you have concerns about a child or young person, call 101 or 999 in an emergency.

Knife Crime

- 99% of 10-29 year olds do not carry a knife
- A person can get up to 4 years in prison for possession of a knife, even if it is never used
- People who carry a weapon are more likely to be hospitalised with a violence-related injury, and in many cases their own weapon has been used against them
- Many young people who carry a knife say that they would prefer not to

Crimestoppers 0800 555 111. www.crimestoppers-uk.org

National Council for Voluntary Youth Services

www.ncvys.org.uk

NSPCC 0808 800 5000. Email: help@nspcc.org.uk Web:

www.nspcc.org.uk/gangs

ChildLine 0800 1111

Action on county line drug gangs

New powers would allow the police to shut down mobile phone lines.

'County lines' are where urban gangs are supplying illegal drugs in suburban areas, market or coastal towns.

Vulnerable children and adults are exploited by gangs to move drugs and cash around.

Home Office

Key Term	Definition
Extremism	Vocal or active opposition to commonly held values, particularly British values such as democracy and the rule of law.
Fundamentalism	The strict following of (often religious) principles.
Echo chamber	A typically online platform where beliefs and views are repeatedly reinforced and amplified without challenge.
Radicalisation	A process by which a person comes to support terrorism and extremist ideologies
Terrorism	The unlawful use of violence or threat of violence and intimidation to bring about political, religious or ideological change.
Propaganda	Information, especially of a biased or misleading nature, used to promote a political point.
Keyboard warrior	A person who makes aggressive or abusive comments online (that they would not say in an offline setting).
Peer Pressure	Peer pressure is the direct influence on people by peers, or the effect on an individual who is encouraged and wants to follow their peers by changing their attitudes, values or behaviours to conform to those of the influencing group or individual.
Gang	consisting of at least three people defined as having one or more characteristics that enable its members to be identified as a group by others.
Grooming	Grooming is when someone builds a relationship, trust and emotional connection with a child or young person so they can manipulate, exploit and abuse them. Children and young people who are groomed can be sexually abused, exploited or trafficked.
County Lines	gangs and organised criminal networks involved in exporting illegal drugs into one or more importing areas within the UK, using dedicated mobile phone lines or other form of "deal line". They are likely to exploit children and vulnerable adults to move and store the drugs and money and they will often use coercion, intimidation, violence (including sexual violence) and weapons."

Year 9 PSHCE Term 2 Intimate Relationships

You will learn about Consent, Safe sex and Sexually transmitted diseases and the responsibility that comes with being in an intimate relationship.

The Definition of Consent

Consent is defined as an agreement made by someone with the freedom and ability to decide something. Under the law, it is the person seeking consent who is responsible for ensuring that these conditions are met.

Consent has to be given freely and no one can be made to consent to something. It's not consent if someone does something because they feel they have to.

NO

Is saying NO the only way people show that they don't give consent?

Some examples could be:

- Stopping kissing
- Pulling away from the other person
- Not wanting to be hugged
- Appearing nervous/frightened
- 'Freezing' or being unresponsive
- Stopping speaking



What can happen to you if consent is not given to a sexual act?

Possible custodial sentence if found guilty of rape
Sexual assault could lead to a community order, fine or prison sentence

Having sex without consent and sexual assault could result in the perpetrator being added to the Sex Offender Register

Having a criminal record, and/or being put on the Sex Offender Register will have a major impact on future life events such as getting work

The Law : Age of Consent

- The age of consent (the legal age to have sex) in the UK is 16 years old.
- The laws are there to protect children from abuse or exploitation, rather than to prosecute under-16s who participate in mutually consenting sexual activity. Underage sexual activity should always be seen as a possible indicator of child sexual exploitation. To help protect younger children the law says anyone under the age of 13 can never legally give consent.
- This means that anyone who engages in any sexual activity with a child who is 12 or younger is breaking the law Sexual activity with a child who is under 13 should always result in a child protection referral. The law gives extra protection to young people who are over the age of consent but under 18. It is illegal:
 - To take, show or distribute indecent photographs of a child (this is often called sexting)
 - to pay for or arrange sexual services of a child
 - for a person in a position of trust (for example teachers or care workers) to engage in sexual activity with anyone under the age of 18 who is in the care of their organisation
- The [Sexual Offences Act 2003](#) applies in England and Wales, with some sections applying in Northern Ireland and Scotland. It gives more information about specific offences and the related penalties

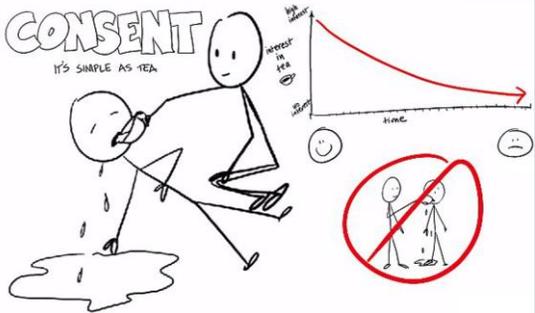
- Childline
- National Domestic Violence Helpline
- Survivors UK (BOYS)
- The Men's advice line
- Galop (LGBT)
- Respect phoneline (for the abusers)
- Safeline

- Parents/Guardians
- Student Services
- A trusted adult
- Mrs Faulkner or Miss Brook (CP)

Who can I talk to if I need support?

CONSENT

IT'S SIMPLE AS TEA



STI = Sexually Transmitted Infection

STD = Sexually Transmitted Disease.

An STI is any kind of bacterial or viral infection that can be spread through sexual contact..... This however is not just through penetrative sex.

In 2017, there were approximately 420,000 diagnoses of STIs in England and of those, **CHLAMYDIA** accounted for nearly half of them (200,000 diagnosis of chlamydia and over 44,000 diagnoses of gonorrhoea).

The top 7 STI/STD's in the UK

- Chlamydia
- Gonorrhoea
- Trichomoniasis
- Genital Warts
- Genital Herpes
- Pubic Lice
- Scabies
- Syphilis

These lessons are not here to scare you, but just as you wash your hands and cover your mouths when you cough to prevent making anyone become ill, so should you be aware of preventing yourself and others becoming ill from bacteria that is passed on through sexual activity.

With education you are able to make informed decisions and therefore protect yourself from infections which if left untreated can cause serious health complications.

To be sexually active in the future with your partner you also have the responsibility to keep yourself and your partner safe.

A large proportion of these STI diagnoses are amongst young people aged 15 to 24, who account for 63% of chlamydia diagnoses and 37% of gonorrhoea diagnoses.

Latest statistics from Public Health England (PHE) show that a case of chlamydia or gonorrhoea is diagnosed in **A YOUNG PERSON EVERY 4 MINUTES IN ENGLAND.**

The best way to prevent contracting an STI/STD is the barrier method (Condom)

With so many STI's showing no symptoms it is also too easy to assume that you are healthy and not carrying any infections that you could pass onto someone else.



DID YOU KNOW?

30

DIFFERENT BACTERIA, VIRUSES AND PARASITES ARE KNOWN TO BE TRANSMITTED THROUGH SEXUAL CONTACT.

8

OF THESE ARE LINKED TO THE GREATEST INCIDENCE OF SEXUALLY TRANSMITTED DISEASE.

4

OF THESE 8 ARE CURRENTLY CURABLE: SYPHILIS, GONORRHOEA, CHLAMYDIA AND TRICHOMONIASIS.

4

ARE VIRAL INFECTIONS AND ARE INCURABLE: HEPATITIS B, HERPES SIMPLEX VIRUS (HSV OR HERPES), HIV, AND HUMAN PAPILLOMAVIRUS (HPV).



If you have any worries or concerns you can speak to a trusted adult, the school nurse and there are also services available at the Sexual Health Clinic.

School Nurse Drop in
If you need confidential health advice
Come to reception to see our new school nurse Rita O every Tuesday between 1.15pm and 2pm
No appointments necessary!



Clinic Details

Telephone:

01722 425120

Address:

Central Health Clinic, Avon Approach, Salisbury, SP1 3SL

Opening Times:

Wednesday 12.30pm - 7.30pm

Friday 2pm - 5pm (Under 25's only)

Opening times for Department of Sexual Health, Salisbury District Hospital (GUM)

•Monday: 09:00 - 17:00

•Tuesday: 09:00 - 17:30

•Wednesday: 09:00 - 16:00

•Thursday: 09:00 - 17:30

•Friday: 09:00 - 12:00

•Saturday: CLOSED

•Sunday: CLOSED

<http://www.nhs.uk/Conditions/Sexually-transmitted-infections/Pages/Introduction.aspx>

FREE NHS SERVICE

NON-JUDGEMENTAL

CONFIDENTIAL

CLINICS AT: CALNE, CRIFFRHAM, DEVIZES, MELKSHAM, SALISBURY, TIDWORTH, TROUSERS & MARSTON

Sexual health advice
Testing & treatment for
sexually transmitted
infections (STI)

Provision of emergency
contraception &
provision of emergency
hormonal
methods

01722 425120

wiltshiresexualhealth.co.uk