The Trafalgar School at Downton

Knowledge Organiser

Year 8: Terms 3 and 4

2024/2025

Contents

Name……House……

Being Trafalgar

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

To help yourself you should:

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

Using a Knowledge Organiser well

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

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

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

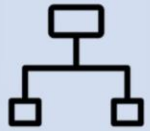
What do I do with my Knowledge Organiser at the end of the term?
You don't have to carry your Knowledge Organiser around with you anymore but you should keep it somewhere safe where you can easily get it out and use it. Remember that the information on the Knowledge Organiser includes things you will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

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

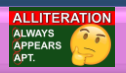
Your Knowledge Organiser is a vital document. It contains all the key things from your lessons that you will need to work on committing to your long-term memory. Here are some useful methods to use that will help commit the information to your long-term memory

The Trafalgar School AT DOWNTON

How to use a knowledge organiser – step by step guide

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

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

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

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 8

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 …

Writing the text for a Leaflet/Guide

Stay Safe and Sound Online — clear/apt/original title

Manage your online reputation — subtitles

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

Privacy Matters — effectively/fluently sequenced paragraphs

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

....

Remember: — bullet points

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

Text for a Speech/Talk

'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.'

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

Writing Forms

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 [illegible] 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 against the huge-hitting Pole Jerzy Janowicz, Murray will [illegible]ve been subject to several of these. He does [illegible] time he pops to the lavatory. The osmolality 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 [illegible] it will [illegible]y be thanks to the bloke who inspects his wee.

introductory (overview) paragraph

fluently sequenced paragraphs

fluently sequenced paragraphs

Daily Diet

At 7.30 this [illegible]ng, while many of [illegible] arriving at Wimbledon's press restaurant will have begun their day assaulting a [illegible]ttering Himalaya of fried starch, Murray will have eaten yogurt, fruit and a bagel smeared in peanut butter ...

Writing to Review

clear, engaging title — **Feeling Icy About Frozen?**

effective introduction

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

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

use topic specific language

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

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

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

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

Writing a formal letter

writer's address

35 Hibiscus Crescent
Andover
Hants
SP10 3WE

221B Bakers Street
London
NW1 6XE

reader's address

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, I agree that students won't spend all morning choosing what to wear or beg parents for clothes that will impress. However, there is another side to this case: uniforms breed uniformity. We are a culturally diverse nation and yet we all dress the same, this encourages us to be the same. At Brinsley High, we are encouraged to express 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)

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, a colour of burnt 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 to be 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, stroking the upholstery of the rotting seat as it passed.

sensory description

spatial discourse markers

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

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!

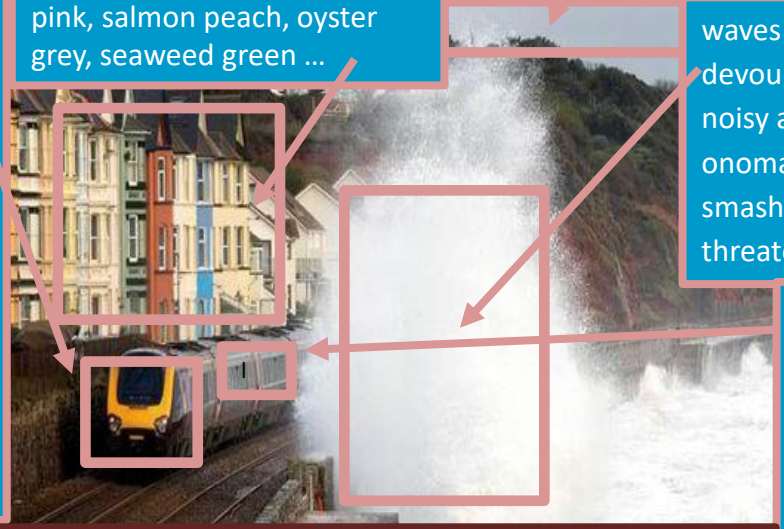
Inside it's silent. No one speaks. The bus windows shut, lulled by the rocking motion, side-to-side, back-and-forth, up-and-down, my eyes feel heavy. Outside, I'm mesmerised by the noise I can only see, only imagine: mouths asking, replying, laughing, traffic screeching, angry drivers honking, shop doors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

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 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 <u>description</u> on specific areas, zooming in on minute detail, and out again to another area. Each boxed area = a paragraph.

1. Intro: Here you will find everything you need to know about buying a goldfish. Follow this advice to …
2. First of all, research the fishes needs and best fish breeds …
3. Next, decide where to put … bedroom could be best habitat for your fish because … However, it might be better to …
4. After this, it's back to the research. Make a list of … Don't …. Do …
5.

Linear flow and vertical charts are useful for planning writing that has to follow a step-by-step process. Each section/shape = 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!

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

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

Fail to Plan
Plan to Fail!

Rising Action (build towards conflict):

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

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

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

- what events happen to solve the problem?

Exposition (Introduction):

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

Dénouement/Resolution (ending):

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

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

Conclusion: To conclude, repeat RQ, Quite simply, yes!

Yours Sincerely

Form: Letter
Audience: Headmaster
Purpose: Argue change uniform

P1

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

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

P2

P3

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

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

Writing Purposes	Key Language/Structural methods	Chocolate Model!
Inform: tell the reader what they want/need to know.	➢ **Use interesting facts details;** ➢ **use brackets to explain technical terms.**	**Interestingly, chocolate** is actually made from the seeds of a cacao tree. After fermentation, the beans are dried, cleaned, and roasted. The shell is then removed to produce cacao nibs **(unadulterated chocolate in rough form).**
Explain: tell the reader how and why.	➢ **Use connectives: 'as a result', 'because', 'so that', when;** ➢ **use sequence discourse markers: Eventually, Another, Furthermore.**	**Often, when** in need of comfort or reassurance, or in stressful situations, people crave chocolate. Primarily, this is **because** dopamine is released into your brain **when** you eat chocolate, and **as a result** it can lower levels of anxiety …
Describe: help the reader to picture it and imagine the experience.	➢ **Use similes, metaphors, personification, interesting adjectives/verbs, sensory description.**	**Enticingly,** the **dome** of **dark** chocolate**, flecked sporadically** with **lime slivers, remained encased** in its **fluted carapace. Around** the outside of it **cleaved** the **diminutive remains** of its **neighbour:** a **praline** long ago eaten**! Velvety smooth,** this **solitary bead** of **ganache glistened, revelling** in its **escape**, yet **mourning** its **rejection.**
Narrate: tell the reader a tale that will have them hanging on your every word.	➢ **Use the mountain/ pyramid structure;** ➢ **use some description;** ➢ **use a few lines of direct speech.**	**Suddenly**, she was aware she had arrived at her destination! On the door in front of her, a **scarlet square of shiny plastic printed** with the words 'Chocolate Laboratory' stood out on **splintering wood**. **Why she was standing on this doorstep, though, and what, or who, had led her here in the first place?**
Persuade: try to get the reader to do as you ask/agree with you.	➢ **Use APE FOR REST: anecdote, personal pronouns, emotive language, fact, opinion, rhetorical questions, repetition, experts, statistics, triples.**	**One of** the **world's greatest comfort** foods, Chocolate, is **the unrivalled 'go-to'** when **life takes a bad turn**, an **easy gift** to **thrill** just about **everyone,** and a **tasty treat** that will **uplift even the most melancholy of moods.**
Argue: present two sides, but ensure your side appears strongest so reader agrees with you.	➢ **Use sequence discourse markers;** ➢ **use 'Some believe ..', 'However, most people would agree that';** ➢ **use APE FOR REST (above).**	**First of all, some believe that as chocolate** is high in calories, it is bad for you. **However, scientific experts have proven** that chocolate, as it contains high levels of antioxidants, could **lower cholesterol levels, improve mood and prevent memory decline**!
Advise: help warn and guide reader, but reassure with carefully considered advice.	➢ **Use imperative verbs (stop, do, don't, wait etc.), and modal verbs (if, could, might, should).** ➢ **use second person (you, your).**	**Most importantly, if you** are feeling bored and craving chocolate, **don't** give in to your yearning. Instead, **you could go** for a walk, **run** errands, **call** a friend or **read** a book. **If you** can take your mind off food for a short time, the craving **may** pass.

Most Often Misspelled words

embarrass	height
equipment	Hygiene
experience	Imitate
fluorescent	Independent
friend	
fulfil	

Term 3 & 4 SPIVoT words

acquiesce	essential
aggravate	exception
ameliorate	favourite
antagonise	friend
believe	illiterate
committee	irresistible
delineate	negotiable
deride	seize

YEAR 8 ENGLISH READING
TERMS 3 & 4
'ROMEO & JULIET'

William Shakespeare

ROMEO AND JULIET – THE STORYLINE

ACT ONE	ACT TWO	ACT THREE	ACT FOUR	ACT FIVE
There is a fight in the streets of Verona between the servants of the Capulets and Montagues. Prince Escalus says that any more violence will result in death. Romeo is in love with Rosaline. Paris asks Capulet to marry Juliet. Romeo and the others in disguise attend a Capulet party. Romeo, Benvolio, and Mercutio arrive at the banquet. Romeo asserts that he will not dance, due to his melancholy, and he is teased by Mercutio, who humorously enlarges on his probable enchantment by Queen Mab. The group proceeds to the party, although Romeo expresses darkly ominous feelings. Romeo and Juliet meet and fall in love. Romeo discovers that Juliet is a Capulet.	Romeo separates himself from his friends as they leave the party. Juliet appears at a high window and Romeo admires her beauty. Believing herself to be alone, she soliloquizes about her love for Romeo, regretting that he is a Montague. He reveals himself, and they speak of their love and exchange vows. Juliet is called away by the Nurse, but she returns to say that she will send a messenger to Romeo the next day, to whom he can convey a plan for them to marry. Romeo arrives and tells Friar Laurence of his new love and asks his help in marrying her. The Friar agrees, hoping that their alliance will end their families' feuding.	Mercutio begins to pick a fight with Tybalt. Romeo appears and is insulted by Tybalt, who challenges him to a duel. Romeo excuses himself, citing mysterious reasons why he and Tybalt should be friends, but Mercutio cannot tolerate this and draws his sword on Tybalt. Romeo attempts to separate them, and Mercutio is mortally wounded by Tybalt. Mercutio, curses both Montagues and Capulets for their feuding and dies. Tybalt returns, and Romeo fights and kills him. Romeo flees. The Prince appears and interrogates Benvolio. Judging Tybalt to be guiltier than Romeo, he spares the latter the death sentence but banishes him from Verona. The Nurse brings her word of Tybalt's death and Romeo's banishment. Juliet speaks of suicide and the Nurse volunteers to bring Romeo to her.	Paris speaks to Friar Laurence. Juliet arrives and coolly deflects Paris' courtesies. Once alone with the Friar, she desperately craves assistance. Her talk of suicide suggests a plan to him: he will provide her with a potion that will make her seem to be dead. She will be placed in the family crypt, where Romeo will meet her so that they can flee together. Juliet, alone in her bedroom, is afraid that the Friar's potion may actually kill her. But she steels herself and drinks the potion. The Nurse, unable to rouse Juliet, raises the alarm that she is dead.	Balthasar arrives in Mantua with the news that Juliet has died. Romeo immediately plans to return to Verona and join his beloved in death; he buys a fast-acting poison from an Apothecary. Paris visits Juliet's tomb at night. Romeo appears. Romeo and Paris fight. Romeo kills Paris. Romeo drinks the poison and dies. Friar Laurence arrives and views the carnage just as Juliet awakens. Juliet kisses her dead lover and stabs herself with his dagger. The Prince arrives, followed by Juliet's parents and Romeo's father, all of them drawn by the news of the tragedy. The Friar gives an account of Juliet's feigned death and Romeo's misinformation. The Prince points out that the feud between the two families has led to this moment, and Montague and Capulet forswear their hostility and vow to erect golden statues of the two lovers.

Themes

Love	Parents/children	Violence
Conflict	Hatred	Responsibility
Family	Fate	Revenge
Relationships	Gender	Death

SHAKESPEARE AND HIS TIMES - CONTEXT

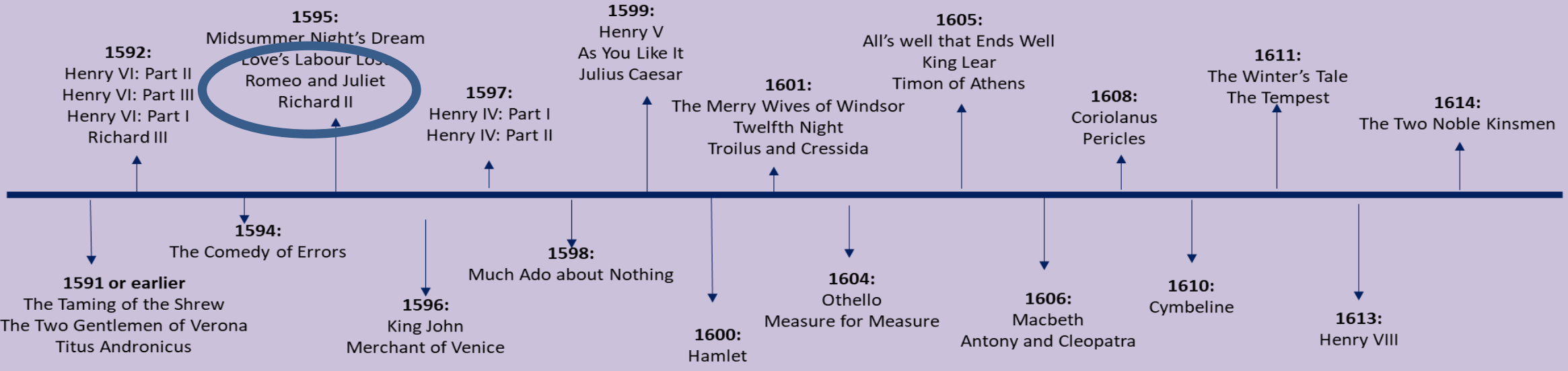
CONTEXT

The play was published in 1597 (it is thought to have been written in 1595)	There was a strong social system. The nobles and the poor are separated so the divide between them is very clear.	The groundlings were the poor members of the audience. They loved the violence and action. They were often drunk and unruly.	Love and relationships were very organized. Arranged marriages were popular amongst the wealthy.	Very religious times. Catholicism plays a large part in this play.
Women lacked power. It was a patriarchal society. Women were dominated and oppressed.	Noble families were very concerned with loyalty.	Noble families were very concerned with power and wealth.	These were, occasionally, very violent and bloody times.	Lack of science meant that people of this time focused heavily on fate and religion. There are lots of references to stars and 'star-crossed'

Why do we study Shakespeare?

Shakespeare has had a huge influence over literature, the English language, and Western Culture so it is important to have an awareness and an understanding of his work. His writing is very skillful and covers a large number of genres (e.g. poems, plays, comedies, histories, and tragedies). In addition to this, his writing covers themes that are still relevant today such as jealousy, revenge, the pursuit of power, and many different kinds of love. In other words Shakespeare wrote about what it means to be human.

Timeline showing when Shakespeare's plays are thought to have been written



THE MAIN CHARACTERS IN THE PLAY

MAIN CHARACTERS			
ROMEO	The son and heir of Lord and Lady Montague. Romeo is handsome and intelligent, yet he is also impulsive and sensitive. Romeo is a peaceful character, and is not interested in the violence that goes on around him, choosing instead to focus his energies on love. Although Romeo seems easily swayed in his love life, he is definitely committed at the end.	**MONTAGUE AND CAPULET**	The patriarchs of the Montague and Capulet families, who have held a long running feud (argument) - this has been going on before the play begins. Both seem to deeply love their own children yet they are not always aware of their child's state of well being.
JULIET	The daughter of Capulet and Lady Capulet. Juliet is a beautiful young girl (13 years old). Juliet is caring, compassionate and, at times, shows immense courage and personality (defying her parents, arguing with her father and drinking a potion without knowing the effects). At times, she shows great intelligence and wit, particularly in conversations with her mother.	**MERCUTIO**	A kinsman to the prince and one of Romeo's closest friends. Mercutio is an extraordinary character in that he has a sparkling wit and a good imagination. Much of Mercutio's speech deals with puns and word play. His hot-headed personality eventually leads to his downfall.
PRINCE ESCALUS	The most powerful character in the play, with the authority to govern the other characters and deliver punishments. He is also kinsman to Mercutio and Paris. As the Prince of Verona, his main concern throughout most of his appearances on stage are in relation to ensuring that the peace is kept. He is merciful in banishing Romeo for the death of Tybalt rather than sentencing him to death.	**FRIAR LAURENCE AND THE NURSE**	Both Friar Laurence and the Nurse act as guidance for Romeo and Juliet. They appear to be the two people that Romeo and Juliet trust more than anyone else as they are people the youngsters confide in. Friar Laurence is kind and believes that marriage may heal the feud. The Nurse is sentimental and kind (she is also quite rude which provides humour for the audience). She is more of a mother to Juliet than Lady Capulet has ever been.

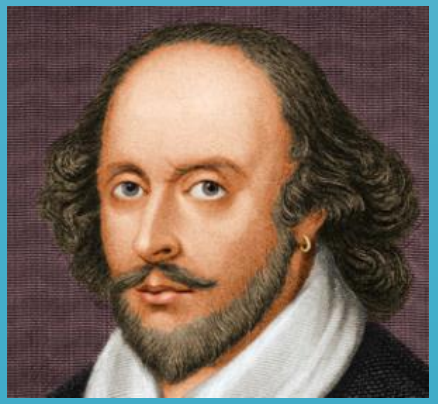
Features of a Tragedy in Romeo and Juliet

Tragic Hero - A main character cursed by fate and possessed of a tragic flaw (Romeo, and to an extent Juliet).

Hamartia - The fatal character flaw of the tragic hero (his passion and impulsiveness).

Catharsis - The release of the audience's emotions through empathy with the characters.

Internal Conflict - The struggle the hero engages in with his/her fatal flaw.



Dramatic Devices in Romeo and Juliet

Dramatic Irony	Mercutio and Benvolio think Romeo is still pining over Rosaline, but the audience knows he has moved on to Juliet. A2 S1
Soliloquy	Juliet's opening speech in A3 S2 in which she pours her heart out over her love for Romeo.
Aside	Juliet secretly hopes for the 'villain' Romeo: *Villain and he be many miles asunder God pardon him!* A3 S5.
Foreshadowing	Friar Laurence: *These violent delights have violent ends, And in their triumph die, like fire and powder.* A2 S6

Public Speaking Unit – Knowledge Organiser

Possible Speech Topics

- Physical Education should be required of all students throughout secondary school.
- Schools should block YouTube.
- Single-sex schools are better for students.
- All people should be vegetarians.
- It is never appropriate for the government to restrict freedom of speech.
- Human cloning should be banned.
- Poetry should be removed from the curriculum.
- All citizens who do not vote should pay a fine.
- The death penalty should be re-introduced.
- The voting age should be lowered.
- Video games are too violent.
- History (or other subject _____) is an important subject in school.
- The UK should not give foreign aid to other countries.
- People should be fined for not recycling.
- Parents should be allowed to choose their baby's gender.
- Animal testing should be banned.
- Drone attacks against specific targets are a necessary part of modern warfare.
- School uniform is unnecessary.

When thinking about your own topics, consider the following…

- Is there a charity which is close to your own heart?
- Is there a sport you love which more people should be aware of, or should it be in the Olympics?
- Is there a disease which has affected you or your family you would like to raise awareness of?
- Has something the government has done angered you?
- Is there a change you would like to bring about?

Success Criteria for Your Speech

Delivering your speech…

✓Confidence.
✓Clear and articulate.
✓Uses persuasive techniques to affect the audience.
✓Body language / gestures used.
✓Makes eye contact with the audience (you!)
✓Puts across a detailed and well-planned speech.

Writing & Planning your speech…

- When it is delivered, it should last for between one and two minutes.
- It should contain many techniques from APE FOR REST.
- It should be structured properly and put across several different arguments.
- It should be written up neatly, so you are able to read it to the class clearly.

When writing a speech, be persuasive; use APE FOR REST to help with this…

A

ALLITERATION (WORDS BEGINNING WITH THE SAME SOUND) **EFFECT:** EMPHASISES/FOCUSES ATTENTION ON POINT
"A really rich and rewarding opportunity"

ANECDOTE A SHORT PERSONAL STORY/MEMORY **EFFECT:** ADDS AUTHENTICITY/RELATABILITY. CAN BE EVOCATIVE
"I'll always remember year 7, because that was the year I was horrendously bullied. I know what it feels like to…"

P

PERSONAL PRONOUNS I, we, our, you
Using these helps to make your argument/persuasion difficult to ignore.

E

EMOTIVE LANGUAGE (ENGAGES AUDIENCES/READER'S EMOTIONS) EFFECT: HELPS CREATE SUPPORT/OPPOSITION
"An innocent bystander was brutally attacked by a violent thug by Tesco's last Tuesday."

F

FACTS (SOMETHING WE KNOW OR HAVE PROVEN TO BE TRUE) **EFFECT**: ADDS PLAUSIBILITY TO AN ARGUMENT
"We know/it has been proven/research has shown that… English is the best subject."

O

OPINION (ADVICE/PERSONAL VIEW) **EFFECT:** ADDS PERSONAL/RELATABLE EVIDENCE/INVESTMENT
"I strongly believe that we need to…"

R

RHETORICAL QUESTIONS (QUESTION ASKED FOR EFFECT). **EFFECT:** ENGAGE, PROVOKES THOUGHT
"How many more elephants have to die before we start enforcing harsher punishments on the ivory trade?"

R

REPETITION (REPEATING INFORMATION) **EFFECT**: EMPHASIS & CLARITY
"It is everybody's responsibility to keep our school clean, and everybody can do more."
"Research has found that 65% of girls…" "If 65% of girls are more likely too…"

E

EXPERTS using a fictional expert in your writing will make what you are saying more authoritative and give it more status. Create a job title for someone and follow with a statement that supports your ideas.
e.g. Professor Borras from Cambridge University Institute of Technology states that 'we need to be more careful with how many hours our young people spend online. The consequences could be devastating.'

S

STATISTICS (PERCENTAGES, FRACTIONS) **EFFECT**: ADDS PLAUSIBILITY AND GARNERS SUPPORT FOR ARGUMENT.
"74% of people agree..."

T

THREE (RULE OF) (LISTING IN GROUPS OF THREE) **EFFECT**: MEMORABLE, CONCISE, EMPHASIS
"Fast, convenient and secure".

TONE (THE ATTITUDE OF A PIECE OF WRITING) **EFFECT:** DRAWS IN THE AUDIENCE
Sincere, ironic, sarcastic, sentimental, enthusiastic, apathetic, bossy, instructive, assertive, outraged…

Public Speaking Unit – Knowledge Organiser

Structuring Your Speech

1. Say what your issue is and set out your argument.
2. Give two or three persuasive reasons why your argument is correct.
3. Give one reason why people might disagree with you, but ensure you then explain why this isn't correct.
4. Give a final persuasive reason why your argument is correct.
5. Thank your audience for listening and remind them what they should be thinking and feeling.

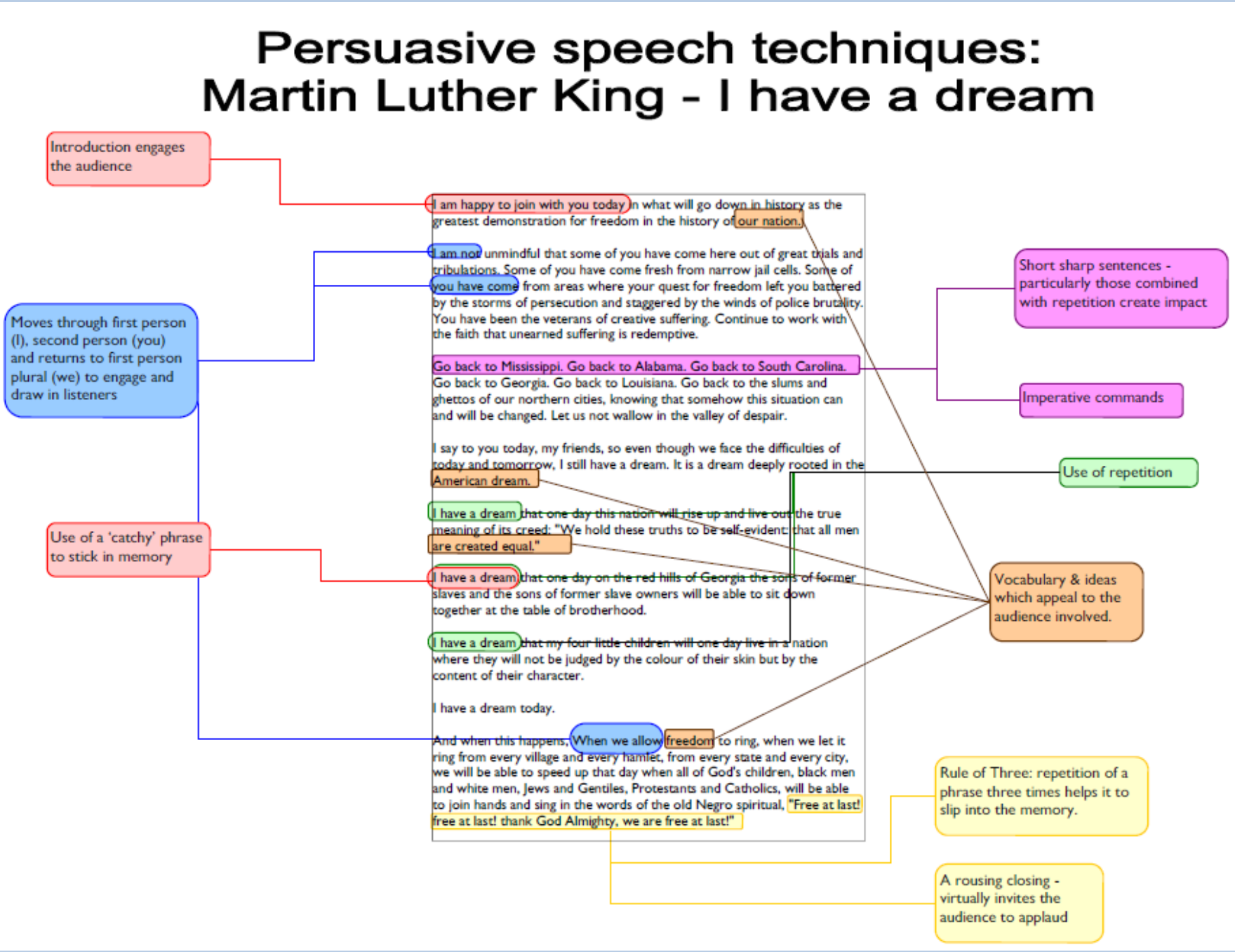
Say what your issue is and set out your argument.
I am here today to talk to you about why every person in our society should be a vegetarian. I know that not everyone will want to be a vegetarian, but I hope to explain why it would be better for society if we were.

Give two or three persuasive reasons why your argument is correct.
According to the U.N., it is estimated that the meat, egg, and dairy industries account for an astonishing 65 percent of worldwide nitrous-oxide emissions. Nitrous Oxide is a greenhouse gas for more potent than Carbon Dioxide. Surely nobody here is a climate change denier? Surely we all want to ensure we leave behind a world safe for our children and their children after them?

Give one reason why people might disagree with you, but ensure you then explain why this isn't correct.
Of course some people would argue that vegetarianism is a personal choice and we should not be forced to change our lifestyle. But I would remind these people that smoking in public places was once a personal choice. Fox hunting was once a personal choice. In fact, slavery was once a personal choice – would we ever suggest that these changes have made society a worse place?!

Thank your audience for listening and remind them what they should be thinking and feeling.
Thank you for taking the time to listen to me today, I am adamant that for intelligent people like yourselves, the conclusion is obvious: vegetarianism can save our planet from destruction.

Persuasive speech techniques: Martin Luther King - I have a dream



Year 8 Maths Term 3 Algebra 1

What do I need to be able to do?

- **Understanding Algebra and how do I use correct notation**
- **Recognise the difference between an expression, equation, formula and identity**
- **Simplifying Expressions**
- **Forming and solving equations**
- **Expanding and Factorising brackets**
- **Substitution**
- **Sequences**
- **Graphs**

Key words

Algebra	Expand
Equation	Factorise
Expression	Substitution
Formula	Operations
Identity	Factors
Variable	Terms
Coefficient	Sequences
Graphs	

Index Laws

$$a^n \times a^m = a^{n+m}$$
$$a^n \div a^m = a^{n-m}$$
$$(a^n)^m = a^{nm}$$
$$a^0 = 1$$
$$a^{-n} = \frac{1}{a^n}$$
$$a^{\frac{n}{m}} = \sqrt[m]{a^n}$$

Sparx Maths M120

What is Algebra and how do I use correct notation

Algebra – Is the use of letters to represent an unknown, we call this letter a **variable**.

For example, imagine this sum:

□ – 2 = 4

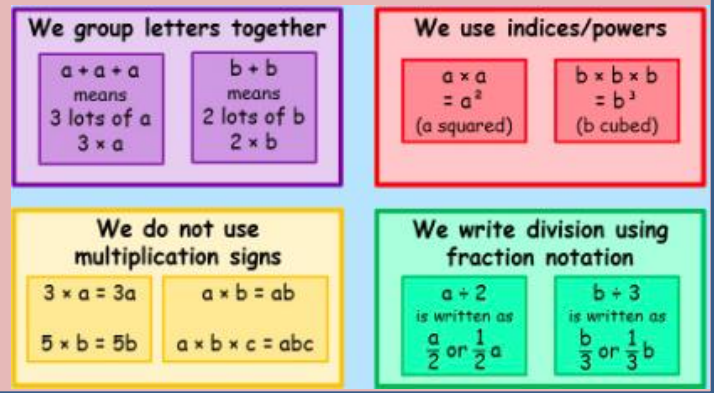
The empty box represents the unknown number in this sum. We replace this box with a letter, a variable. This is helpful when talking about the sum and when the problem contains more than one unknown.

Notation is the way in which we write things and present a sum. Using the correct notation in Algebra is important with multiple variables, it becomes even more important to be organised in the way we lay out the sum.

Sparx Maths M813

Key rules:

- In algebra we don't use the multiplication sign as it is the same as the letter x. We instead remove the times sign and push the variables or **coefficients** and variables together. The **coefficient** is the number in front of the variable.
- The division symbol is also not used and the sum is written as a fraction.
- If there are multiple variables then it is best to organise the variables in alphabetical order and power order. For example: 6zxy is better written as 6xyz.



Expression, Equation, Formula or Identity

Expression – An **expression** is formed of variables and numbers, combined with **operation** signs and brackets. Each part of an expression is called a **term**. In the expression $3n + 5$ the **terms** are $3n$ and 5 and the operation is +. An expression does NOT have an equals sign.

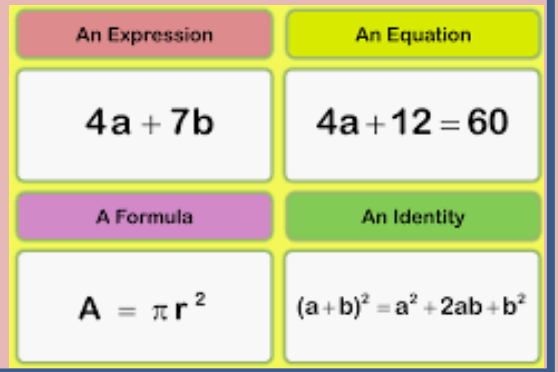
Equation – A mathematical statement showing that two expressions have equal value. The expressions are linked with the equals symbol =. For example, in the equation $5x + 4 = 29$ the = symbol shows that 5x + 4 has the same value as 29 and therefore this equation can be solved to find the value of x.

Formula – An equation linking sets of variables. For example, the formula $v = u + at$, has 4 variables v, u, a and t related by the formula. If the values of three variables are known, the fourth value can be calculated. There are lots of formulas you will learn in Maths and Science and some you already know, eg. S=D/T, A=L x W, A = ½ B x H

Identity – When the expressions are said to be *identically equal.* The expressions are linked with the symbol ≡.

For example, $4(a + 1) \equiv 4a + 4$ is an identity, because the expressions $4(a + 1)$ and $4a + 4$ always have the same value, whatever value a takes and they are the same expression just written in a different way.

Example of each:



Sparx Maths M830

Year 8 Maths Term 3 Algebra 2

Simplifying Expressions

When there are multiple variables then it is important to simplify so there are the least number of terms possible.

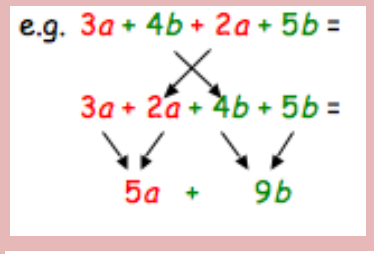
We simplify by **collecting like terms** together.

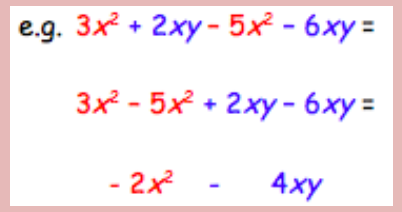
Like terms can be defined as '*Terms with the same letter variables raised to the exact same powers*'

For example:

Sparx Maths M795 & M531

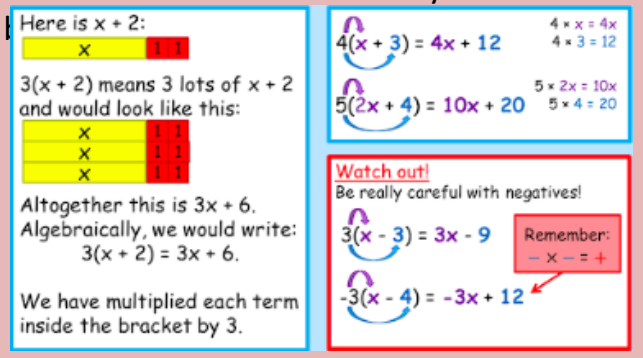
- 6m and 3m are like terms because they both have the variable m.
- 4xy and 5y are NOT like terms because they do not both have the same variables x and y.
- $3x^2$ and 5x are NOT like terms because they have different powers.





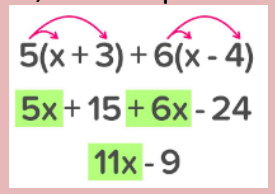
Expanding

Expanding – Means removing the brackets. We do this by multiplying the term in front of the brackets by each of the terms inside the b

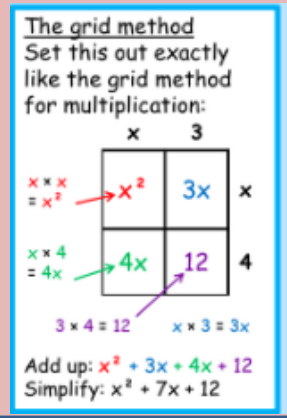


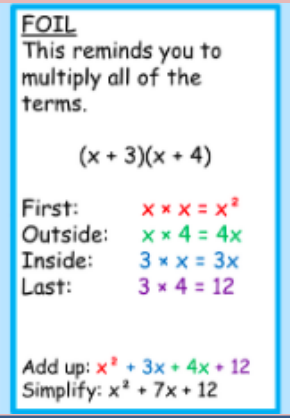
Sometimes there are multiple brackets, so the question will ask you to **Expand & Simplify**:

Sparx Maths M237, M792, M960



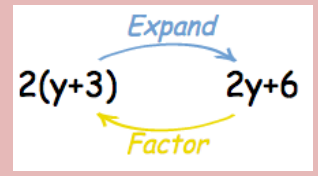
Sometimes there are 2 or more brackets next to each other. This is called **expanding quadratics**. There are lots of different ways to do this, here are 3 methods using the example $(x+3)(x+4)$





Factorising

Factorising – Is the direct opposite of expanding, factorising is returning the brackets. With singles brackets we do this by finding the highest common factor and placing it outside of the bracket, the remaining factors go inside the bracket.



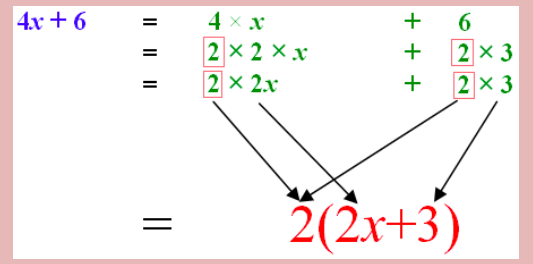
Example:

4x + 16 **Highest common factor of 4 and 16 is 4**

4x is 4 x x

16 is 4 x 4 **Therefore** **4x + 16 = 4(x + 4)**

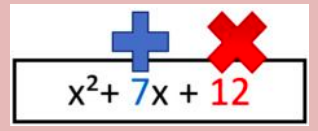
Example:



Sparx Maths M100

Factorising quadratics means factorising into double brackets. We do this by finding 2 numbers that add (sum) to make the middle term and multiply (product) to make the last term.

Example:



$(x+3)(x+4)$

Year 8 Maths Term 3 Algebra 3

Forming and Solving Equations

"I'm thinking of a number, I times it by 6 and get the answer 18. What number am I thinking of?"

A problem like this can be represented using algebra. Let the variable (our unknown number) be x

"times it by 6" is the same as 6 x x, which using correct notation we write as $6x$
"get the answer 18" is the same as = 18, which we write as $6x = 18$
$6x = 18$ can now be solved.

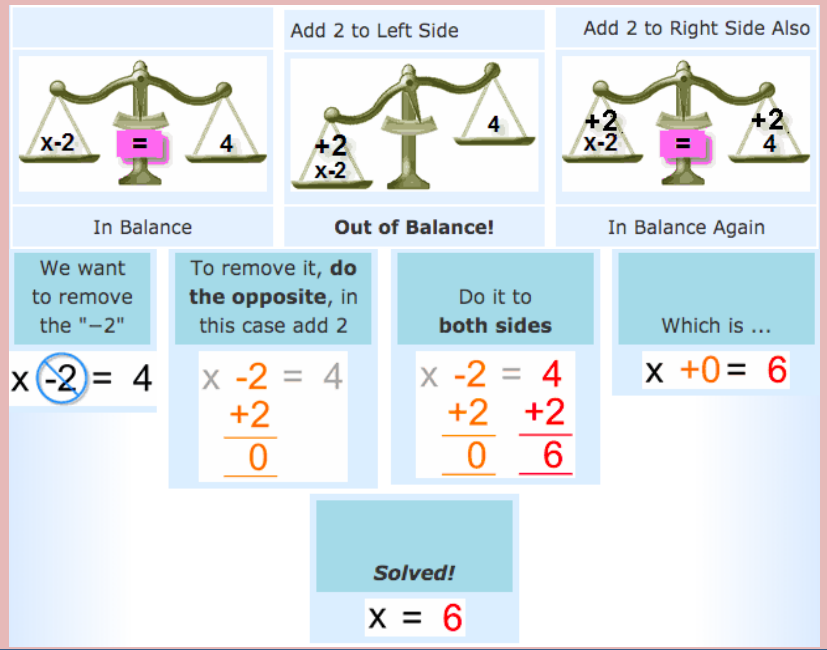
x	x	x	x	x	x
18					

To calculate the value of x we do the inverse. The opposite of multiplying by x is to divide by x

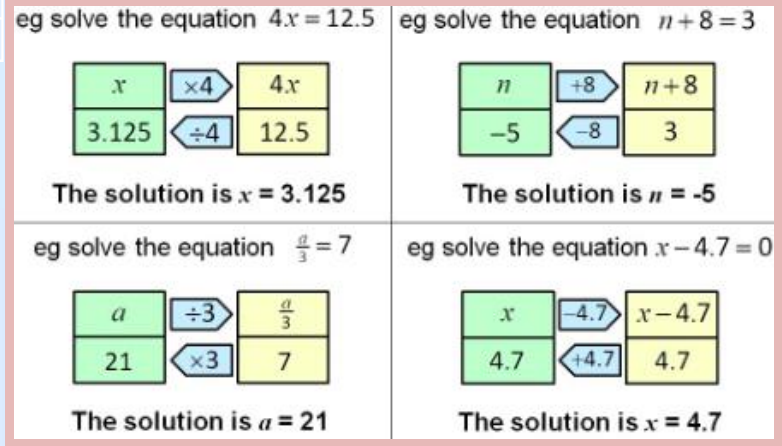
$6 \times x = 18$
$x = 18 \div 6$
$x = 3$

Sparx Maths M957, M707 & M509

Doing the 'inverse' is a way of removing terms until x is left on its own as x=
The key thing to remember is we must always "**keep the balance**" and **what you do to one side of the equals must be done to the other**



- The inverse of addition is subtraction
- The inverse of subtraction is addition
- The inverse of multiplication is division
- The inverse of division is multiplication



Substitution

Substitution – To replace or 'substitute' the variable with a number and complete the sum. There have been many times you may have substituted before and not even realised this is what you were doing.

For example, to calculate the area of a rectangle you multiply the length with the width.

Area = Length x Width
A = L x W
Length (L) = 5cm
Width (W) = 3cm
A = 5 x 3
A = 15cm^2

Real life substitution examples and formula's

Example 1: The formula to change degrees Celsius (℃) to degrees Farenheit (℉) is

$F = \frac{9C}{5} + 32$

Sparx Maths M208 & M979

If the temperature is 21℃ then we can calculate the temperature in ℉ by substituting C = 21 into the formula

$F = \frac{9 \times 21}{5} + 32$ $F = \frac{189}{5} + 32 = 69.8℉$ F = 69.8 ℉

Example 2: Cooking time for a turkey is 35 minutes per Kilogram plus an extra 20 minutes. We can create a formula for this: Cooking Time (C) = 35 x Weight (W) + 20
C = 35W + 20

The cooking time for a turkey weighing 5kg would be:
C = 35W + 20 C = 35 x 5 + 20
W = 5 C = 195 minutes or 3hours 15minutes

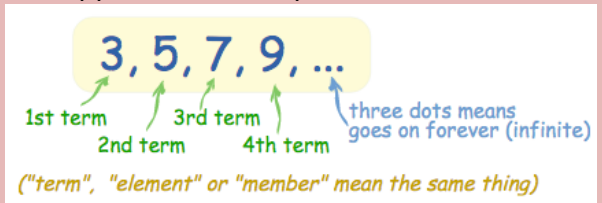
Year 8 Maths Term 3 Sequences 1

Sequences

Sequences – A particular order in which related things follow each other. Sequences usually follow a pattern and when you discover the pattern you can determine the following things:

- The rule for the sequence – we call this the n^{th} term rule
- The next term in the sequence
- Any term in the sequence, the 100^{th} term or the 511^{th} term
- Whether a term appears in the sequence

For example:



This is an infinite sequence – It will go on forever.
The difference between each term is +2. we call this the **term to term rule**.

We can use the term to term rule to calculate the next few terms in the sequence
3, 5, 7, 9, 11, 13, 15, ……

Sparx Maths M991

Steps to calculate the n^{th} term rule:

1. Work out the difference between each term
2. What do you know that goes up in that difference? - the difference times table
3. Work out the difference between the times table and the original sequence and you have your n^{th} term rule

n (term in the sequence) – 1^{st}, 2^{nd}, 3^{rd}, 4^{th}, 5^{th} , ……..
Our given sequence 3 , 5 , 7 , 9 , 11, …… A difference of +2
2 times table (the sequence of **2n**) 2 , 4 , 6 , 8 , 10 , ……..
The difference between the sequence of **2**n and our given sequence is **+1**
n^{th} term rule for this sequence is **2n + 1**
Using **Substitution** and the **n^{th} term rule** we can now calculate **ANY** term in this sequence.

Graphs

Sequences and **Graphs** have a lot in common. A **linear graph** is a visual representation of a sequence. We use **substitution** to calculate the coordinates of a graph when we are given the equation of a line.

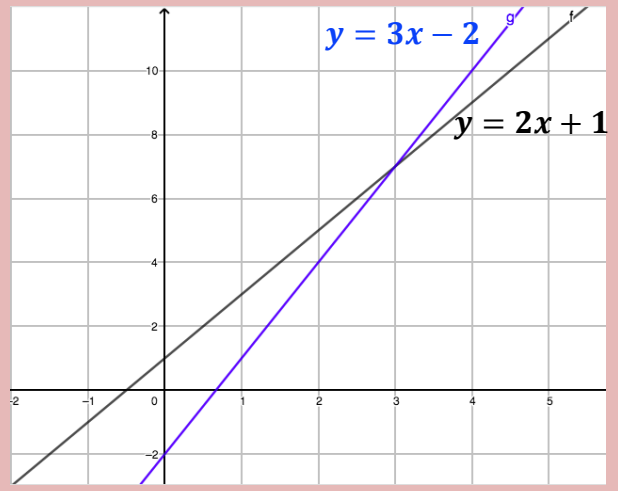
For example: The sequence 3, 5, 7, 9, 11, …..

If the terms in the sequence are now labelled x instead of n, and the given sequence is labelled y then we can represent this in a table as:

x	1	2	3	4	5
y	3	5	7	9	11
Coordinates	**(1, 3)**	**(2, 5)**	**(3, 7)**	**(4, 9)**	**(5, 11)**

The **n^{th} term rule** of this sequence is **2n + 1**, replace n with x and we have the equation of this line. This is the line of $y = 2x + 1$
If we plot these points on a graph we get a straight line.
A **linear sequence** produces a **linear (straight line) graph**.
A **quadratic sequence** produces a **quadratic graph**.

Sparx Maths M932



Example: Draw the graph of $y = 3x - 2$

1. Select your values for x, you need a minimum of 3
2. Substitute your x values into the formula to calculate y
3. Plot your coordinates

$y = 3x - 2$ is the same as $y = 3 \times x - 2$

x	1	2	3	4
y	1	4	7	10
Coord	**(1, 1)**	**(2, 4)**	**(3, 7)**	**(4, 10)**

Year 8 Maths Term 3 Sequences 2

A **sequence** is a series of numbers (or pictures) that follows a pattern or rule.
Each number or item in a sequence is called a **term**.
Term-to-Term rule – the "rule" that gets you from one number in a sequence to the next.
Position-to-Term – the "rule" that enables you to calculate the **value** of a term **at any given position** or place in the sequence. It is sometimes called the **general rule** or, most commonly, the **n^{th} term** rule.
"n" is the **position of a term** in the sequence it must **ALWAYS** be an **integer**

LINEAR /ARITHMETIC SEQUENCE

Key property: linear sequences increase or decrease by the same amount each term.

So to get from one term to the next you will add or subtract the same amount.

All the multiplication times-tables are linear sequences.

To find nth term rule of a linear sequence:

1) Find the **common difference** ("**d**") – the same amount added or subtracted each time.
2) This is the base times-table – so the nth term rule will include "**dn**"
3) Adjust to the sequence you want: what do you need to add or subtract from **1d** to get the starting number?

Sparx Maths M381

Example: Find the nth term of 4, 7, 10, 13…

The common difference is 3, therefore the nth term will include "3n"
The 3 times-table is 3, 6, 9, 12… so the adjustment to get these numbers to our sequence would must be +1 **=> 3n + 1**

You could list the common difference times-table on top of your sequence to help you find the adjustment.

3, 6, 9, 12…
4, 7, 10, 13…. ↓ +1

Sparx Maths M991

Example: Find the nth term of 7, 5, 3, 1…

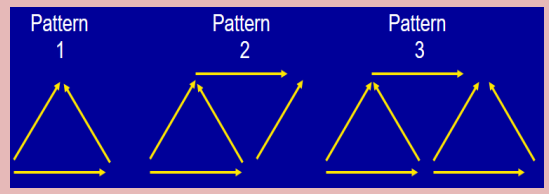
The common difference here is -2, therefore the nth term will include "-2n"
The -2 times-table is -2, -4, -6, -8… so the adjustment to get this to our sequence would be +9 **=> -2n + 9 (or 9 -2n)**

You could list the common difference times-table on top of your sequence to help you find the adjustment.

-2, -4, -6, -8…
7, 5, 3, 1…. ↓ +9

UNDERSTANDING PICTURE PATTERNS

Reduce a picture pattern to numbers – use a table of value to help you.



Pattern Number (n=…	1	2	3	4
Total arrows (Sequence=…	3	5	7	?!
nth term rule => 2n + 1				

You can see the pattern is going up in 2s so there would be 9 matchsticks in pattern 4. You can use the nth term to see how many matchsticks would be in pattern 100 by substituting n = 100.
Pattern 100 = 2 x 100 + 1 = 201.

Sparx Maths M241

A sequence has a rule: 5n -2
Is the term 72 in the sequence?

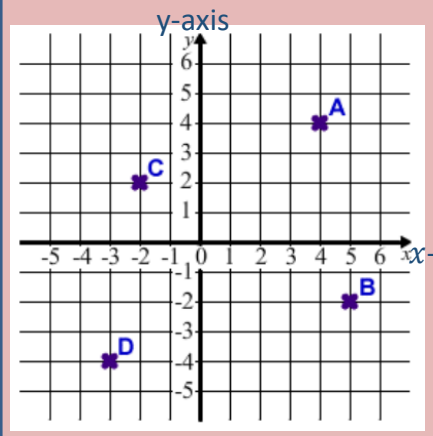
Remember: for **any** sequence "**n**" represents a term's position and **MUST be an integer**.
Form and solve an equation ie.:
Here n is **not an integer** so 72 is **not a term**

5n-2 = 72 (+2)
5n = 74 (÷5)
n = 14.8

Year 8 Maths Term 3 Sequences and the Cartesian Plane

What do I need to be able to do?

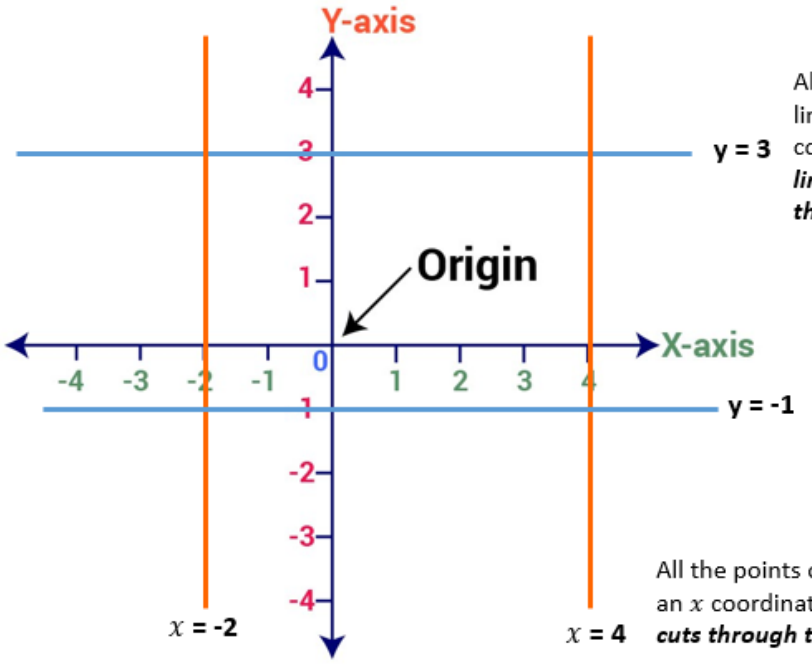
- **Plot and read Cartesian Co-ordinates**
- **Identify and plot lines parallel to the axes**
- **Recognise the line y = x**
- **Understand what a gradient and y-intercept is**
- **Recognise a positive and negative gradient**
- **Give an equation of a line that is parallel to a given line**
- **Plot lines in the form y=mx + c**
- **Find the equation of a line**



A = (4, 4)
B = (5, -2)
C = (-2, 2)
D = (-3, -4)

Coordinates are used to show a position on a graph. They are written with the notation (x, y). The first coordinate is the horizontal position (x-axis), the second is the vertical position (y-axis).

Sparx Maths M618



All the points on this line have a y coordinate of 3. ***The line cuts through the y-axis at 3.***

Sparx Maths M797

All the points on this line have an x coordinate of 4. ***The line cuts through the x-axis at 4.***

Plotting a Straight Line Graph

Every straight line has an equation in the form of:

$$y = mx + c$$

the steepness of the line — The **GRADIENT**

where the line cuts the y axis — The **y-INTERCEPT**

Suppose we want to plot the graph $y = 2x + 1$

We complete a table of values by substituting (replacing) the x values from the table into the equation.

E.g. When $x = 0$

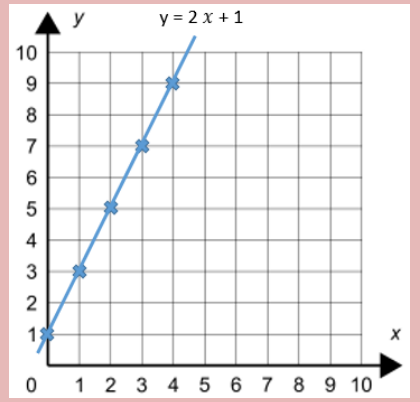
$y = 2 \times 0 + 1 = 1$

So the coordinate in the form (x, y) would be (0, 1)

Sparx Maths M932

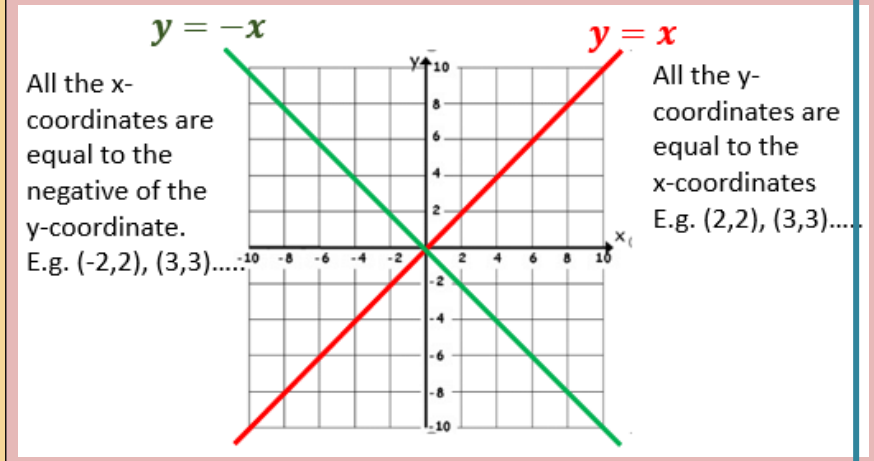
x	0	1	2	3	4	5	6
$y = x + 3$	1	3	5	7	9	11	13
	(0, 1)	(1, 3)	(2, 5)	(3, 7)	(4, 9)	(5, 11)	(6, 13)

We then plot these coordinates on the graph, join them with a straight line using a ruler and label the line with the equation.



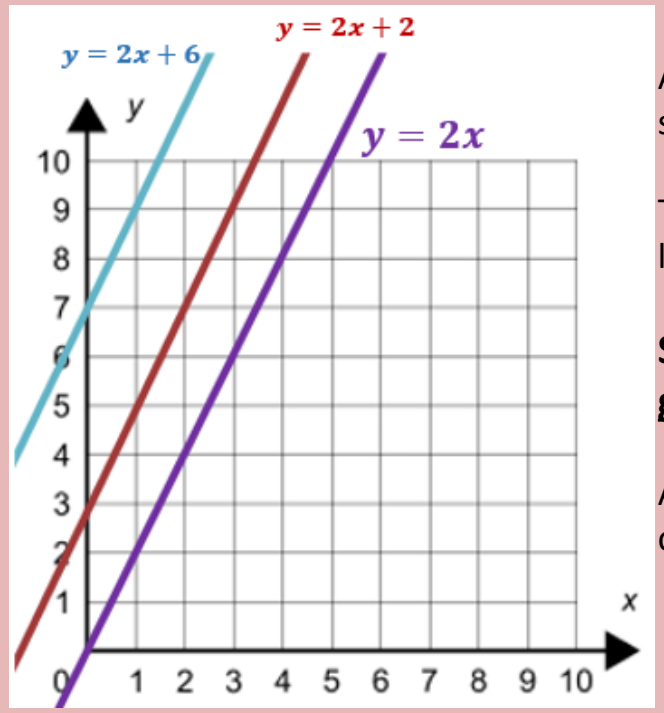
Notice the link between sequences: in this case you are finding the first 6 terms of the sequence 2n + 1

The gradient of the line $y=-x$ is -1. When the gradient is **negative**, the line slopes **down**.
The gradient of $y=x$ is 1. When the gradient is **positive**, the line slopes **up**.
A line that goes straight across horizontally, has a gradient of 0.



Sparx Maths M544

Sparx Maths U898



All these straight lines have the same gradient of 2.

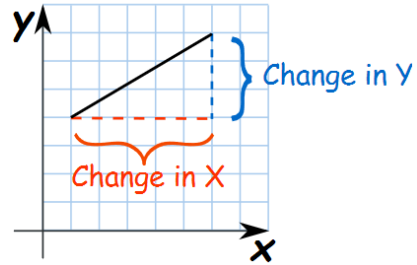
This means that for every unit the line goes across, it goes 2 units up.

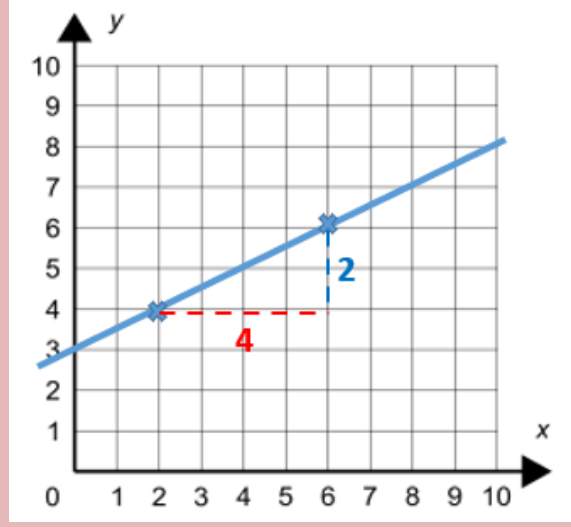
So if two lines have the same gradient, they are parallel.

A line parallel to the line y = -5x + 7 could be y = -5x + 2

Finding the equation of a line in the form y=mx + c

Gradient = $\frac{\text{Change in Y}}{\text{Change in X}}$





To find the m (the gradient), pick 2 coordinates and draw a triangle. Divide the change in y by the change in x.

Gradient = $\frac{2}{4} = \frac{1}{2}$

This means that for every unit the line goes across, it goes $\frac{1}{2}$ a unit up.

Sparx Maths M544

The c, is where the line crosses the y-axis which is 3.

So the equation of this line is **y = $\frac{1}{2}x$ + 3**

When plotting graphs remember to:
Always label your axes 'x' and 'y'
Make sure your scale is even on your axes
Use a pencil and a ruler
Label your straight line graph

Key words
Axis/Axes (plural)
Origin – The point (0, 0)
Coordinates
Y-intercept
Gradient
Parallel
Plot

Year 8 Maths Term 4 Statistics and Probability 1

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
Continuous
Primary
Secondary
Qualitative
Quantitative
Numerical
Primary
Secondary
Tally
Frequency
Class Intervals
Averages

Mean
Median
Mode
Range
Ascending
Correlation

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.

Sparx Maths U322

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.

Sparx Maths M945

Organising Data

Once the data has been collected it needs to be organised so it can be be analysed.
I ask 67 people what their favourite colour is, their responses can be organised in a **tally** chart like this one. Tallys 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	𝍸 𝍸 |||	13
Blue	𝍸 ||||	9
White	𝍸 𝍸 𝍸 𝍸 ||||	24
Black	𝍸 𝍸 ||	12
Other	𝍸 ||||	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	𝍸 |||	8
5 - 9	𝍸	5
10 - 14	𝍸 ||	7
15 - 19	|||	3
20 - 24	𝍸 ||||	9
25 - 29	|||	3
30 - 34		0
35 - 39	𝍸	5
40 - 44		0
45 - 49	|||	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.

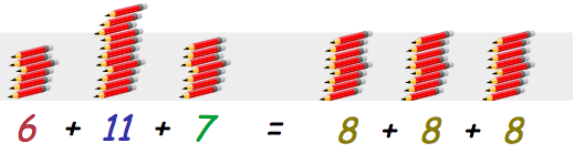
Sparx Maths M940

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



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.

Sparx Maths M841 & M328

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

Sparx Maths M934

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.**

$\frac{n+1}{2}$ n = 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 $\frac{n+1}{2}$ $\frac{15+1}{2}$ = 8th

The middle number is the 8th number:

3, 5, 7, 12, 13, 14, 21, **23** 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 $\frac{n+1}{2}$ $\frac{4+1}{2}$ = 2.5th

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

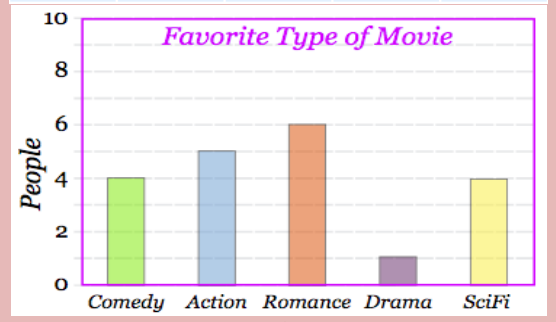
Sparx Maths M460

Presenting Data

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

Bar Chart:

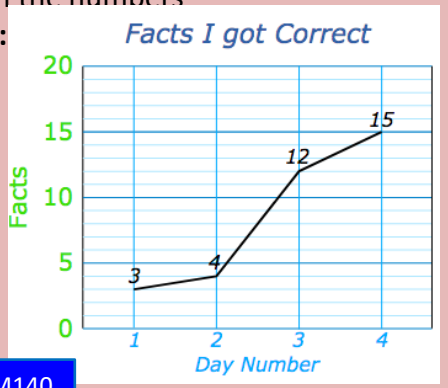
Table: Favorite Type of Movie				
Comedy	Action	Romance	Drama	SciFi
4	5	6	1	4



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 and even scale – equal sized space between the numbers

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



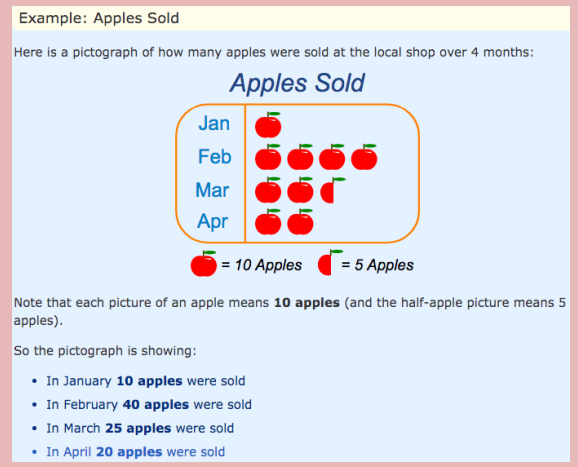
Sparx Maths M140

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

Sparx Maths M644

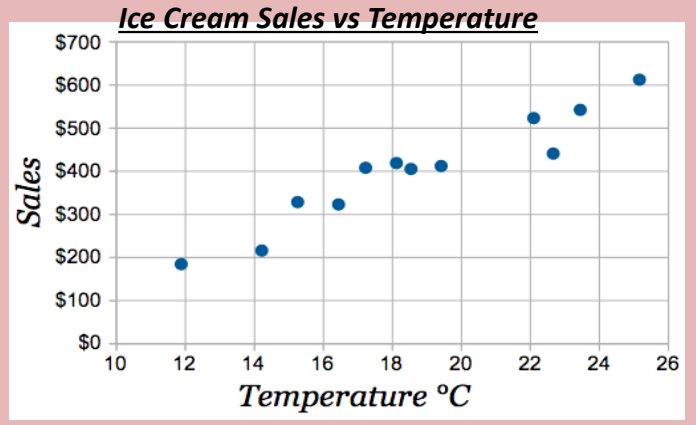
The perfect **Pictogram** must:

- 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

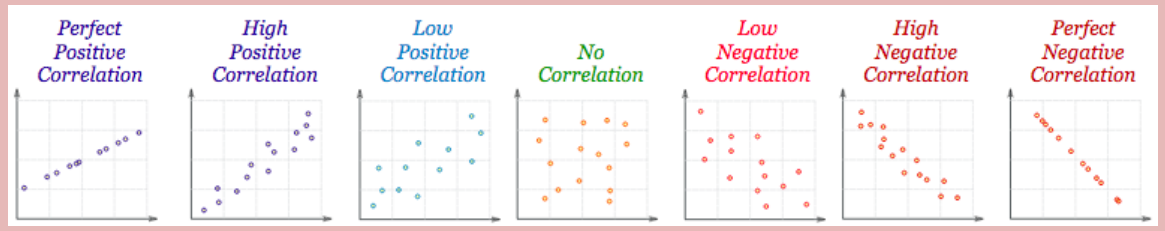


Scatter Graph – shows the relationship between two quantitative data sets**.**

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

Sparx Maths M574 & M165

Table: Favorite Type of Movie				
Comedy	Action	Romance	Drama	SciFi
4	5	6	1	4

Table: Favorite Type of Movie					
Comedy	Action	Romance	Drama	SciFi	TOTAL
4	5	6	1	4	20

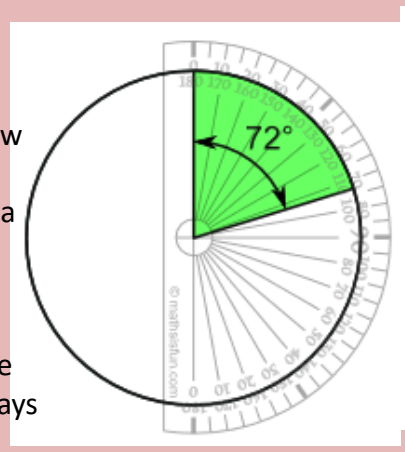
$\frac{360}{20} = 18°$

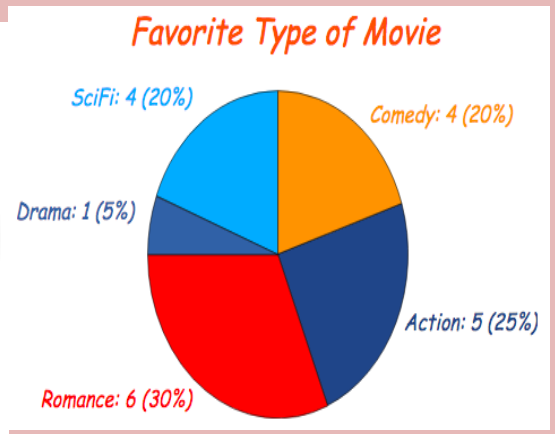
How to draw a pie chart:

1. Calculate the total frequency (add up all of the people in your survey)
2. There are 360º 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 $\frac{360}{20} = 18°$
3. Multiply each frequency by the number of degrees per person to calculate the angle size of the sector (slice of the pie)

Table: Favourite Type of Movie					
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°**

4. Draw a circle using a compass and pencil
5. Draw a line from the centre of the circle to the edge, this is the base line
6. Line up a protractor with the base line, the centre of the circle positioned with the central cross of the protactor. 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 protactor and draw a straight line to complete the first slice
7. 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.
8. Don't forget to add a title and Key.





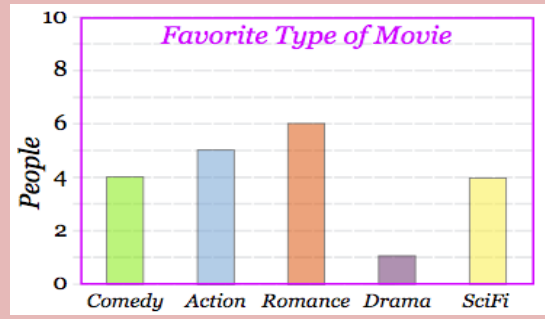
Interpreting Data

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

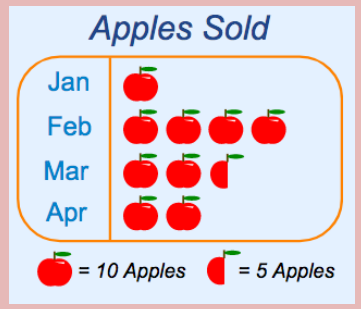
Examples:

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

Year 8 Maths Term 4 Statistics and Probability 2

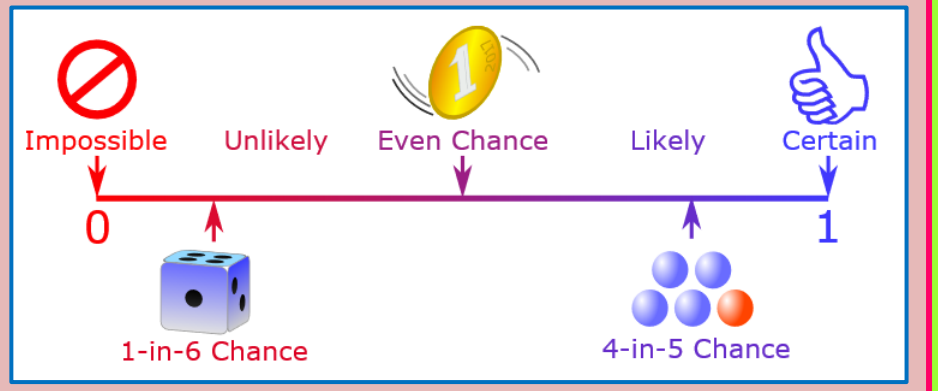
Probability uses numbers to calculate or predict the chance of something happening in the future.

Vocabulary: Probability, Probability Scale, Relative frequency, Theoretical Probability, Dependent Events, Independent Events, Sample Space, Venn diagrams,

Skills you will need: Addition, Subtraction, Multiplication of Fractions

Sparx Maths M655

A **Probability Scale** is used to describe all probabilities, or how likely they are to happen



If an event is **Certain** its probability is 1
Boxing Day will follow Christmas Day in December

If an event is **Impossible** its probability is 0
You will grow to be 5m tall

An event has a probability **Evens** if the two outcomes are equally likely
Flipping a coin and getting heads. The probability of getting a head is ½ or 50%

Likely describes the probability of an event which is more than evens chance but not certain.
You roll a die and get a number greater than 2

Unlikely describes the probability of an event which is less than evens chance but not impossible.
I choose a letter from the word RAIN and pick the A

Sparx Maths M332

Relative Frequency (Experimental Probability)

This is the estimated probability based on the results of an experiment.
I surveyed 50 birds landing on my bird table. 18 of them were bullfinches.
The experimental probability of the next bird landing on my bird table being a bullfinch is 18/50 or 36%
The more trials that are performed, the more reliable the results will be.

Addition and Subtraction:

1. Find the LCM of the denominators
2. Convert them to their equivalent fractions where the denominators are the same
3. Once the fractions have the same denominator you can add or subtract the numerators. The denominator stay the same.
4. Simplify if you can

Multiplication:

1. Cancel any of the numerators with any of the denominators by finding common factors.
2. Multiply the numerators together and the denominators together.

$\frac{2}{9} + \frac{1}{5}$

LCM of 9 & 5 is 45

$\frac{10}{45} + \frac{9}{45} = \frac{19}{45}$

$\frac{2}{9} - \frac{1}{5} = \frac{1}{45}$

Check why

$\frac{\cancel{2}^{1}}{3} \times \frac{6}{\cancel{8}_{4}}$

$\frac{\cancel{2}^{1}}{\cancel{3}_{1}} \times \frac{\cancel{6}^{2}}{\cancel{8}_{4}} = \frac{2}{4} = \frac{1}{2}$

The probability of an event happening is always greater than or equal to 0 (Impossible) but less than or equal to 1 (Certain)

$0 \leq$ probability ≤ 1

Year 8 Maths Term 4 Statistics and Probability 3

A Sample is a selection of items from a population.
Your sample could be a selection of 20 pupils from your year group.

The larger the sample size or the more times you repeated a trial the closer your probability will be to the true probability.

A Sample Space is way of recording the outcomes of two events

Sparx Maths M718

This sample space records all the possible outcomes of a game of rock, paper scissors

	ROCK	PAPER	SCISSORS
ROCK	RR	RP	RS
PAPER	PR	PP	PS

Theoretical Probability is a number between 0 and 1 representing the probability of something happening.

Number of favourable outcomes
Total number of outcomes

Sparx Maths M941

To find the Expected outcomes multiply the probability by the number of trials.
The probability of a team winning is 0.3. How many games can they expect to win in a season of 24 games?

0.3 X 24 = 8 8 games

Sparx Maths M206

More Vocabulary:

Sample, Sample size, Probability notation, Expected outcomes, Mutually Exclusive Events, Exhaustive Events, Tree Diagrams

Probability Notation

P(X) refers to the probability of X occurring
P(Red, two) refers to a red two picked from a pack of cards

Events are Mutually Exclusive if they cannot happen at the same time
Getting Heads or Tails on a coin
Turning Left or Right

Sparx Maths U683

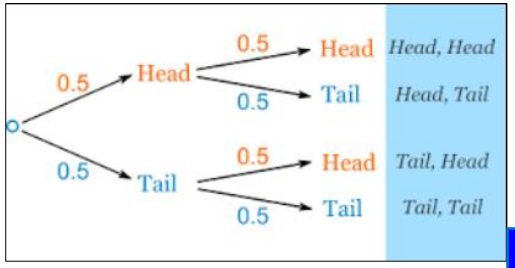
Events are Exhaustive if they cover the entire range of possible outcomes
When you flip a coin the outcomes Heads and Tails are exhaustive because they cover all the possible outcomes
The probabilities of an exhaustive set of outcomes total 1.

Therefore if: **The P(Success) = 0.9** then **The P(Failure) = 1 – 0.9 =0.1**

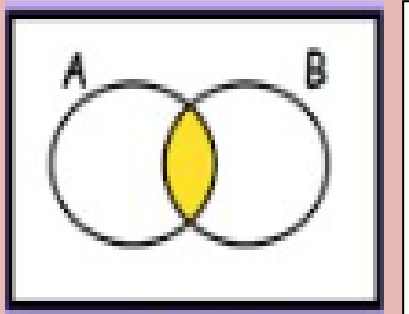
An Independent Event is when the probability of one event does not depend on the outcome of another event.
If I flip a coin the probability of getting a Head is 0.5. The probability will not change for any subsequent flipping of the coin.

Dependent Events. This is when the probability of one event depends on the outcome of another.
If I wake up late the probability of being late for school increases.

Tree Diagrams can show all the possible outcomes of multiple events and can be used to calculate their probabilities.



Sparx Maths M299



Sparx Maths M829 & M419

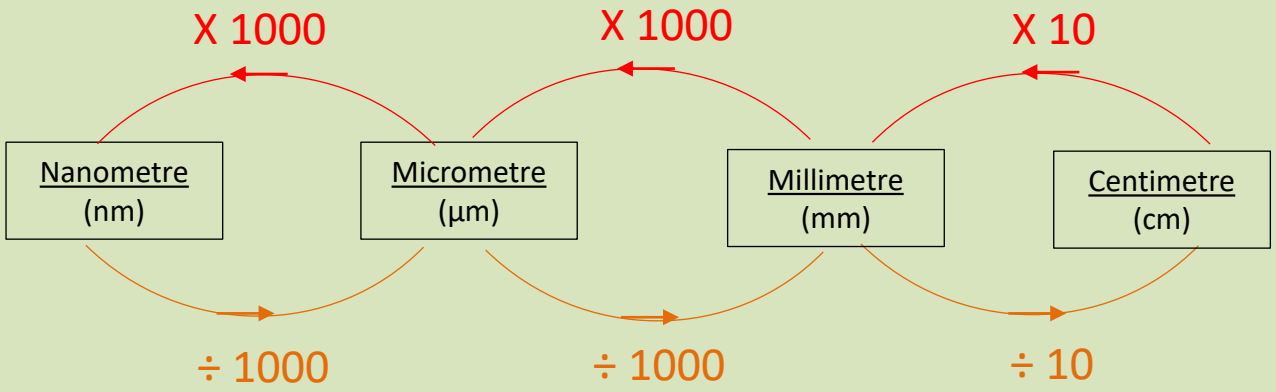
Venn Diagrams can be used to show the relationship between multiple groups of things and how they overlap. These diagrams can be used to calculate probabilities

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	$1x10^{9}$	Gm
Mega	1,000,000	$1x10^{6}$	Mm
kilo	1,000	$1x10^{3}$	km
----------	1	1	m
milli	0.001	$1x10^{-3}$	mm
micro	0.000001	$1x10^{-6}$	µm
nano	0.000000001	$1x10^{-9}$	nm

Converting units of measure:



Variables:

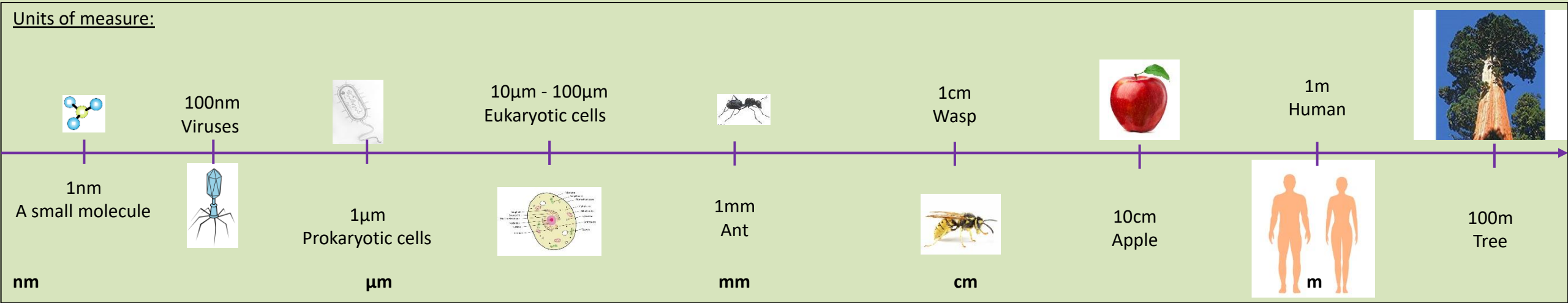
Independent: the variable that is being changed during the experiment

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

Units of measure:



The Periodic Table of Elements

1	2											3	4	5	6	7	0
							1 **H** hydrogen 1										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	[261] **Rf** rutherfordium 104	[262] **Db** dubnium 105	[266] **Sg** seaborgium 106	[264] **Bh** bohrium 107	[277] **Hs** hassium 108	[268] **Mt** meitnerium 109	[271] **Ds** darmstadtium 110	[272] **Rg** roentgenium 111	[285] **Cn** copernicium 112	[286] **Nh** nihonium 113	[289] **Fl** flerovium 114	[289] **Mc** moscovium 115	[293] **Lv** livermorium 116	[294] **Ts** tennessine 117	[294] **Og** oganesson 118

Key

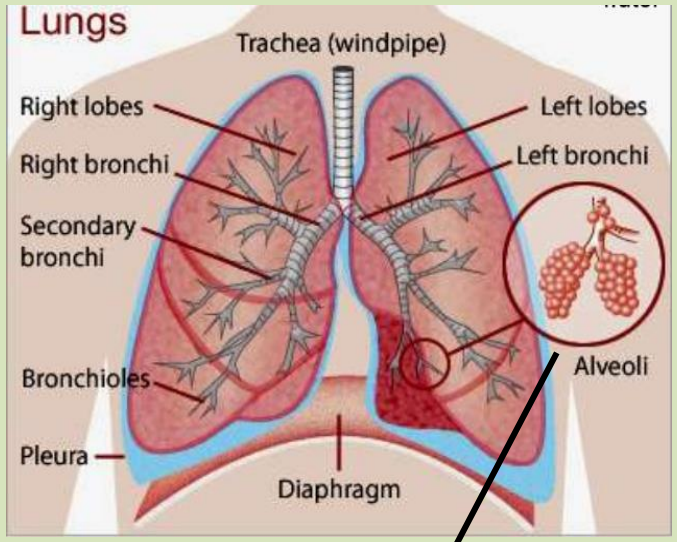
relative atomic mass
atomic symbol
name
atomic (proton) number

* 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.

KS3 Biology: Gas exchange and cellular respiration

Keyword	Definition
Aerobic Respiration	Respiration that requires oxygen
Anaerobic Respiration	Respiration without oxygen
Alveoli	Tiny air sacs in the lungs, where gas is exchanged during breathing
Bronchi	Branches off the trachea that distribute air to both lungs
Bronchioles	Branches of the bronchi, that distribute the inhaled air throughout all of the lungs
Diaphragm	Muscle involved in breathing. Expands and moves down so lungs have room to fill with air – inhalation. Contracts and moves upwards to force air out of the lungs – exhalation.
Lactic Acid	A chemical produced during anaerobic respiration, it is toxic and stops the muscles contracting properly
Lung	Soft organ that inflates to draw in oxygenated air and deflates to expel air
Mitochondria	Organelle found in the cytoplasm of all cells where aerobic respiration takes place
Oxygen Debt	The amount of extra oxygen required by the body to recover after vigorous exercise
Respiration	Process in all living things where glucose is broken down to release energy
Trachea	Windpipe, air passes between mouth and lungs



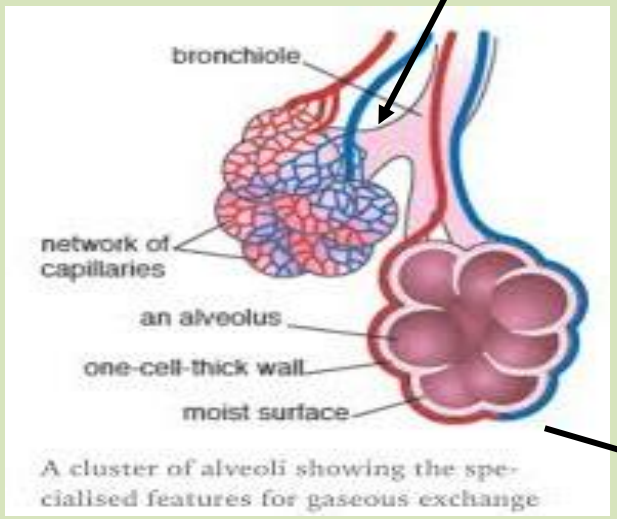
The trachea has 'C' shaped cartilage to keep the airway open. The airways are moist from mucus produced and are lined with tiny hairs called cilia. These cilia move mucus and bacteria to the throat to be swallowed.
There are millions of alveoli that make up a huge surface area for the diffusion of oxygen and carbon dioxide gases.

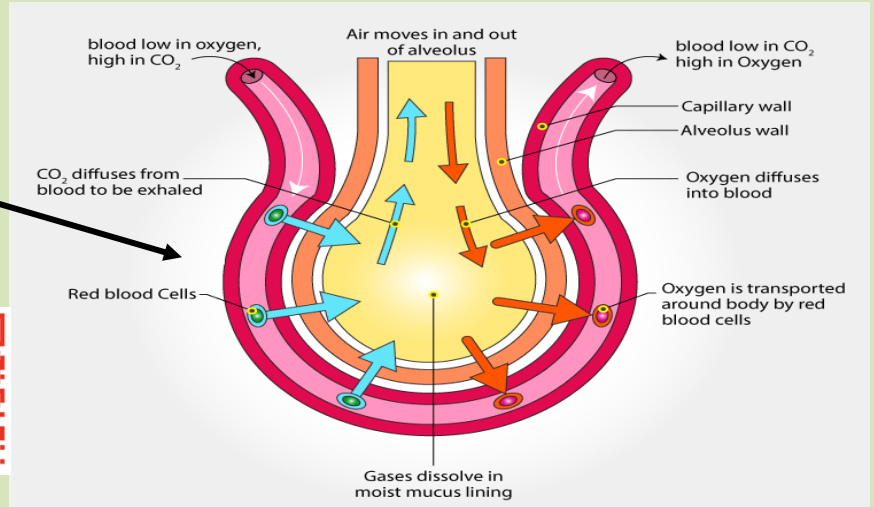
The alveoli are adapted to make gas exchange in the lungs happen easily and efficiently

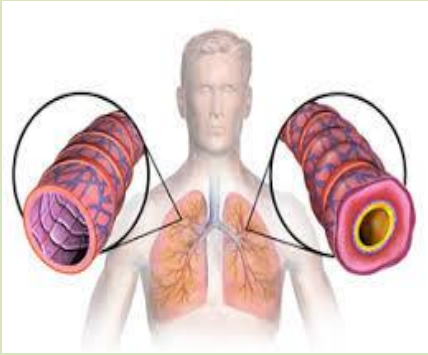
1. Alveoli give the lungs a large surface area
2. Alveoli have thin cell walls, just one cell thick
3. Alveoli are surrounded by lots of capillaries, they have a good blood supply

The gases move by diffusion from where they have a high concentration to a lower concentration

Oxygen diffuses from the air in the alveoli into the blood. Carbon dioxide diffuses from the blood into the air in the alveoli.







Asthma causes airways to close making it difficult to get air in and out of the lungs.

Aerobic respiration in animals

This takes place in the mitochondria of all cells and produces energy.

Energy is used to keep warm, to build proteins and for muscle contraction.

glucose + oxygen → carbon dioxide + water + energy

$C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$ + energy

Anaerobic respiration in animals

Unlike aerobic respiration, **anaerobic respiration** does not need oxygen.

It is the release of a relatively small amount of energy in cells by the breakdown of food substances in the absence of oxygen

glucose → lactic acid + energy

$C_6H_{12}O_6 \rightarrow 2C_3H_6O_3$ + energy

Anaerobic respiration in plants and yeast

Anaerobic respiration also happens in plant cells and some **microorganisms**. Anaerobic respiration in yeast is used during brewing and bread-making

glucose → ethanol + carbon dioxide

$C_6H_{12}O_6 \rightarrow 2C_2H_5OH + 2CO_2$

How is lactic acid produced?

Cells get the energy they need from the chemical reactions of glucose. When you run fast there is a chemical reaction called anaerobic respiration. This reaction transfers energy from glucose to your cells without oxygen. There is just one waste product called lactic acid. Lactic acid is a molecule with the formula $C_3H_6O_3$. A molecule of lactic acid contains atoms of carbon, hydrogen and oxygen.

Inhaling

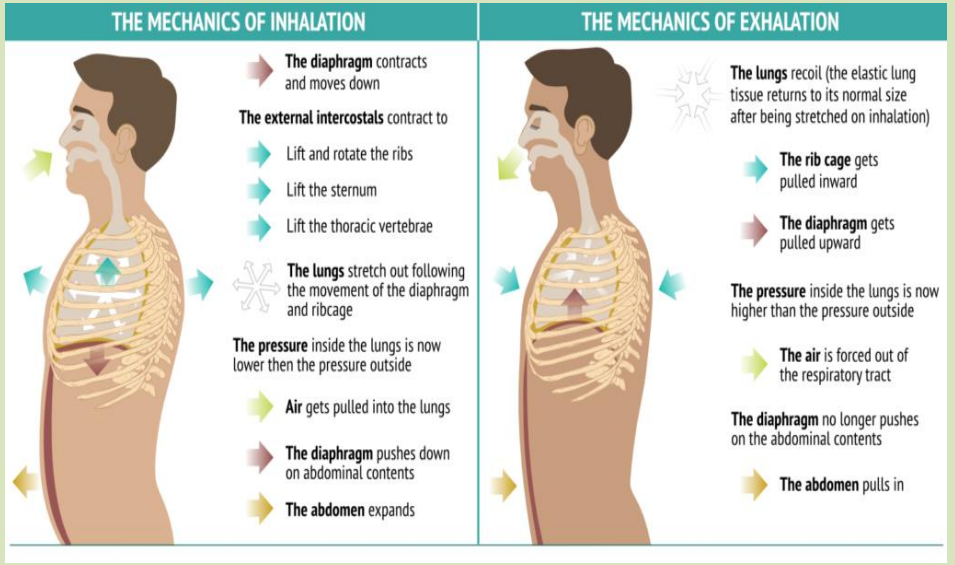
When we inhale, changes in the diaphragm and ribcage reduce the pressure in the chest, and air moves into the lungs

Exhaling

When we exhale, changes in the diaphragm and ribcage increase the pressure in the chest, and air is moves out of the lungs

The differences between aerobic and anaerobic respiration

	Aerobic	Anaerobic
Oxygen	Needed	Not needed
Glucose breakdown	Complete	Incomplete
End product(s)	Carbon dioxide and water	Animal cells: lactic acid. Plant cells and yeast: carbon dioxide and ethanol
Energy released	Relatively large amount	Relatively small amount



Tar	**Damages cilia, excess mucus causes bronchitis, emphysema. Is a carcinogen so can cause cancer**
Particulates	**Particles of carbon that can cause lung infections**
Carbon monoxide	**Replaces oxygen in the red blood cells**
Nicotine	**Causes addiction**

KS3 Chemistry: The Periodic Table

Keyword	Definition
Atom	The smallest particle of an element made up of protons, neutrons and electrons
Atomic number	The number of protons found in an element, this is equal to the number of electrons.
Chemical Symbol	A symbol given to each element that includes a capital letter and sometimes a lower case letter.
Compound	Two or more different elements, chemically bonded together.
Element	A pure substance with only one type of atom.
Group	A column of elements on the periodic table.
Lavoisier	French noble known as the father of modern chemistry, he started the first version of the law of conservation of mass and he named oxygen.
Mendeleev	Russian chemist who came up with the first periodic table, he organised the elements and he left gaps for undiscovered elements.
Mixture	A group of elements or compounds found together that can be separated.
Molecule	More than one atom chemically bonded together.
Newlands	British chemist who created the law of Octaves.
Period	A row of elements on the periodic table.
Relative atomic mass	The mass of the element based on the protons and neutrons found in the nucleus.

A property is characteristic of a substance.

Physical property describes how a substance behaves without chemically changing.

Chemical property describes how a substance interacts with other materials.

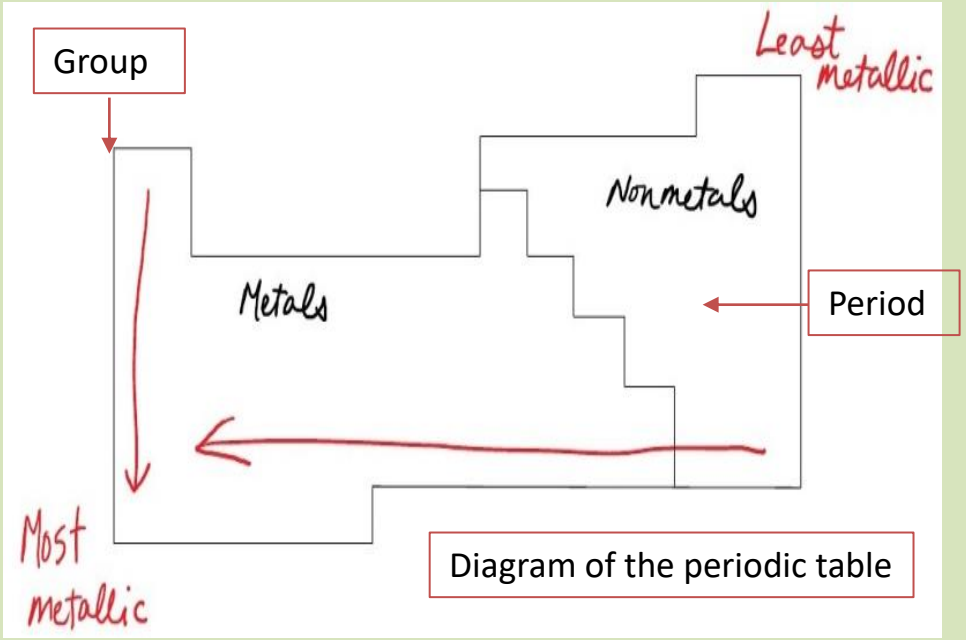


Diagram of the periodic table

Metals & Non-Metals

Properties of

Metals:	**Non-Metals:**
Sonorous	Low melting points
Malleable	Brittle
Ductile	Low density
Shiny	Dull
Conductive	Insulator

Non-Metal Oxides

- Compounds composed of non-metal atoms and oxygen atoms.
- These are acidic compounds.

Metal Oxides

- Compounds composed of metal ions and oxide ions.
- These are basic compounds.

Conservation of Mass

Total mass of reactants = total mass of products

In a chemical reaction, matter is neither created nor destroyed, it is transformed into something else.

Detecting a chemical reaction

The senses can be used to determine a chemical reaction has taken place:

Smell

Fizzing / effervescing

Colour change

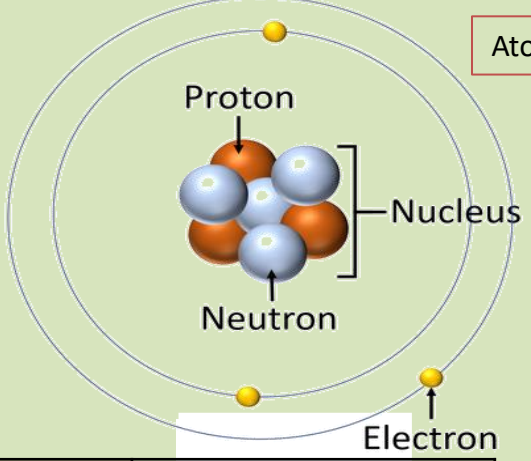
Temperature change

Choosing the right material.

Copper is a good choice for electrical wires because it is ductile and a good conductor.

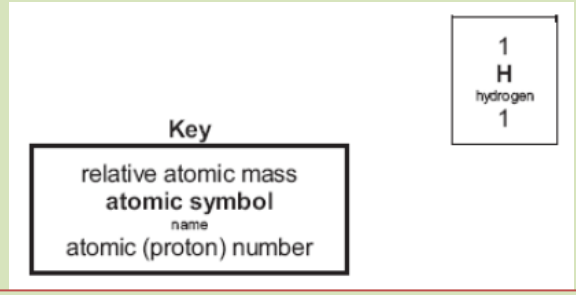
Iron rusts when in contact with water and oxygen, which causes it to become weaker over time.

Type of sub-atomic particle	Relative Charge	Relative Mass
Proton	+1	1
Neutron	0	1
Electron	-1	Very small

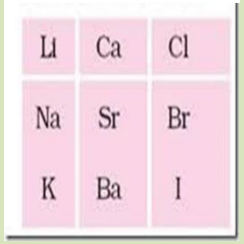
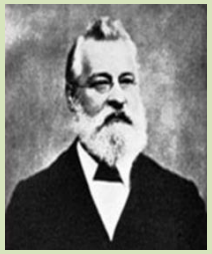
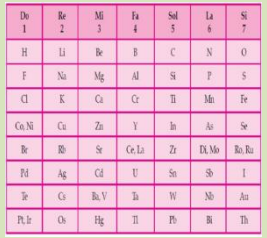
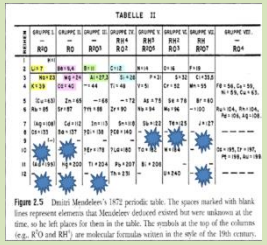


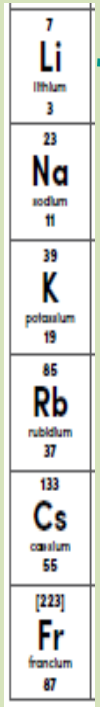
Atomic Structure

Structure of the Atom
Atomic number = the proton number
Relative Atomic Mass (RAM) = the proton and neutron number
To calculate the number of neutrons = RAM – proton number



The History of the Periodic Table

Döbereiner		1829	Elements were grouped in triads (groups of 3 elements).	
Newlands		1864	Elements put into 7 groups of 8 according to relative atomic mass (law of octaves)	
Mendeleev		1869	Elements ordered according to: relative atomic mass and properties Gaps were left to accommodate later discoveries.	

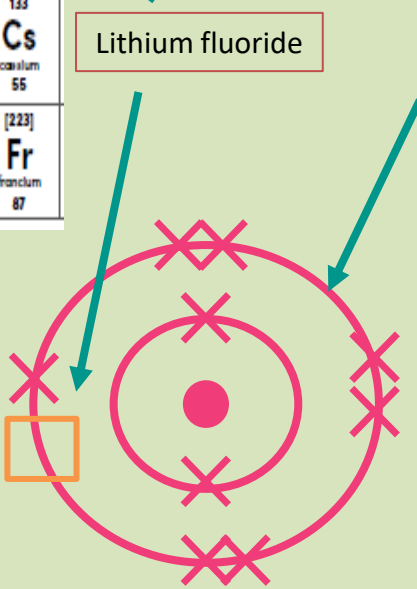


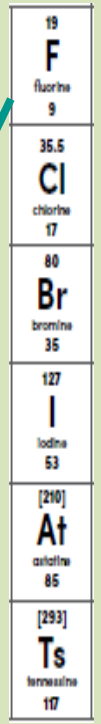
Group 1 – Alkali Metals
- Have 1 electron in their outer shell
- Melting points decrease
- Boiling points decrease
- Reactivity increases

Group 1 metal + oxygen -> group 1 metal oxide
Sodium + oxygen -> sodium oxide
Lithium + oxygen -> lithium oxide

Group 7 – Halogen Gases
- Have 7 electrons in their outer shell
- Melting points increase
- Boiling points increase
- Reactivity decreases

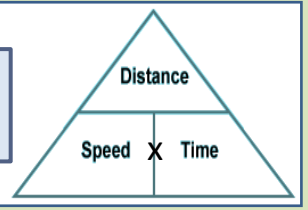
Group 1 + Group 7
Sodium + chlorine -> Sodium chloride
Lithium + iodine -> lithium iodide
Potassium + fluorine -> potassium fluoride





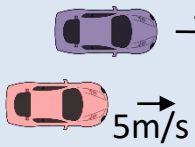
KS3 Physics: Speed and Motion

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



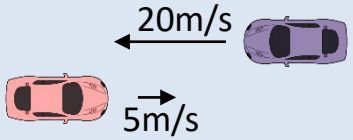
Relative motion

For two objects moving in the same direction, the relative motion is the **difference** between their speeds.



Relative speed = 15m/s

For two objects moving towards each other, the relative motion (sometimes called the approach speed) is the two speeds **added** together.



Relative speed = 25m/s

Stopping distance

A cars **Stopping distance** is made up of **Thinking distance** (reaction time) and **braking distance** (the distance you travel once you have applied the brakes)

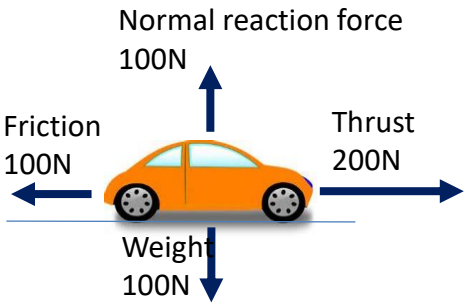
Car Safety Features:

Features to research:
- Seat belts
- Air bags
- Crumple zones
- Child seats
- Side impact protection (SIPs)
- Electronic driver aids

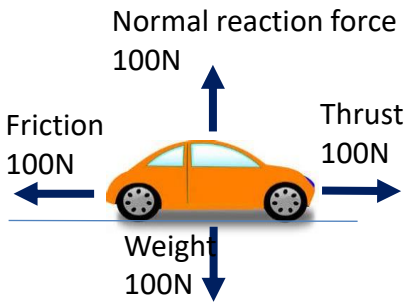
We can plot distance time graphs to interpret the motion of a vehicle/object/person:

Rules for forces and motion

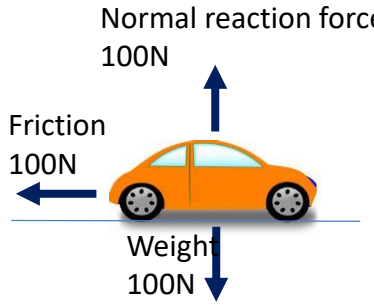
Balanced forces = **The object is stationary** **or** **object moving at a constant speed**
Unbalanced forces = **The object is changing speed** *or* *changing direction* *or* *changing shape*
(Accelerating or decelerating)



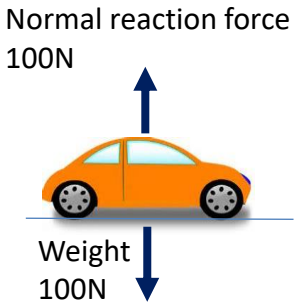
This car is accelerating as it has a larger thrust force than friction force (The resultant force is 100N →)



This car is travelling at a constant speed as it has an equal thrust force and friction force (The resultant force is zero)

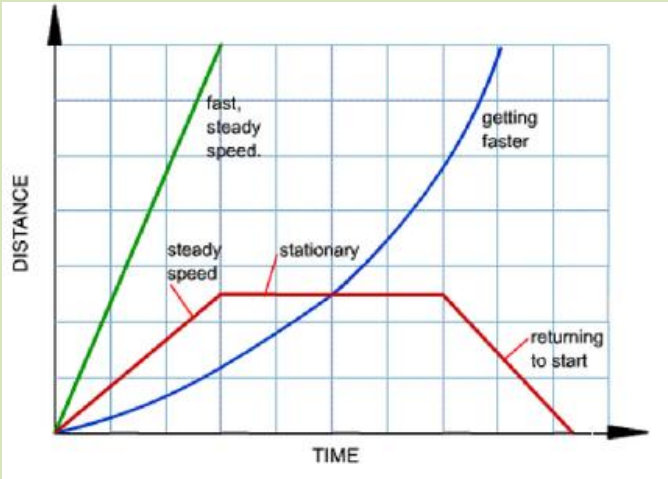


This car is decelerating as it has a larger friction force than thrush force (The resultant force is 100N ←)



This car is stationary as there is no friction or thrust forces (the resultant force is zero)

Distance time graphs



Straight line = constant speed
Horizontal straight line = stationary
Curved line = accelerating or decelerating

Tag	What it defines	Example	Usage
<!--...-->	A comment	<!-- This is a comment -->	Use comments to explain your HTML code
<!DOCTYPE>	The document type	<!DOCTYPE html>	This must be the first line in your HTML document. It has no closing tag.
<a>	A hyperlink	 Australian Tourism	The most important attribute of the <a> element is the href attribute, which indicates the link's destination.
<body>	The document's body	<body> (content) </body>	The <body> element contains all the contents of an HTML document, such as text, hyperlinks, images, etc.
** **	Line break	 	This tag has no closing tag
** **	A section in the document	SEE AMAZING SCENERY	The element is usually used with CSS to lay out a web page
****	Emphasised text	Get free information and travel tips	Text will be displayed as italic in most browsers.
<form>	An HTML form for user input	<form id="subscribe-form"> <label for="Firstname">Firstname: </label> <input type="text" name="firstname">	The <form> element can contain form elements such as <label> and <input>
<h1> to <h6>	HTML headings	This is heading 1 This is heading 2	h1 to h6 have default sizes, which you can change if you need to. Use only for headings – not just to make text large or bold.
<head>	A container for all the head elements	<html> <head><title>New Zealand</title> </head>	The <head> element must include a title for the document and can include styles and scripts.
<hr>	Draws a horizontal line	<hr>	Use to separate two parts of the text or separate topics
<html>	Tells the browser that this is an HTML document	<!DOCTYPE html> <html>	Place under <!DOCTYPE html>, above <head>
<img>	An image	<img src=newzealand.jpg width=90%>	Use to place an image
** **	A paragraph	Explore the lakes of New Zealand	Browsers automatically add some space before and after each element. tags are used for the content of a web page
****	Emphasised text	Book your flight now!	Will be displayed as bold in most browsers
<style>	Style information for a document	<style>body {background-color: grey;} h1 {color: white; font-size: 24pt;} </style>	<style> is written in the <head> section and defines all the styles for the document
<title>	A title for the document	<title>New Zealand</title>	The title is displayed at the top of the window

CSS Property	Description	Example	Usage
/* */	A CSS comment	/* This is a comment */	Use comments to explain your CSS code
Background and dimension properties			
background-color	Sets the background colour of an element such as body, p or an id selector e.g. #header	p{background-color: #0000FF;} #header{ background-color:gray}	The colour can be defined by name or in hexadecimal, e.g. blue=#0000FF
width	Sets the width of an element (height sets height)	#container{width=100%;}	Using a percentage instead of an absolute width makes the web page responsive
max-width	Sets the maximum width of an element (see also max-height, min-height, min-width)	#container{max-width: 800px;}	However wide the screen the element will never be wider than 800px
Font properties			
font-family	Specifies the font-family for text	Body{font-family: Arial, Verdana, sans-serif;}	If the browser does not support the first font listed, it tries the second, then the third etc.
font-size	Specifies the font size for text	p{font-size: 200%;}	The font is set to twice the default size for p
font	Specifies all the font properties in one declaration	P{font: italic 20px arial,sans-serif}	Can set font size in px or pt (pt size is larger than px)
Margin, border and padding properties			
margin-left	Sets the left margin. (You can also define margin-right, margin-top, margin-bottom)	#content{margin-left:190px;}	The left-hand side of the #content section will be 190px from the edge of the page
margin	Sets all the margin properties in one declaration (left, right, top, bottom) in px, pt, cm etc.	h2{margin:20px} #container{margin: auto;}	The margin defines the space outside a border; it is completely transparent. auto gives a default margin
border	Sets all the border properties in one declaration. (border-width, border-style and border-color)	h1{border:5px solid gray;} body{dotted black;}	It does not matter if one of the values is missing.
padding	Sets all the padding properties in one declaration	#navbar{padding: 5px;}	Defines the space round the content inside a border
Positioning properties			
float	Lets an element float to the left or right	img {float:right;}	Use this to position an image to the right of text
Text properties			
color	Sets the colour of text	h1{color: white; font-size: 24pt;} a:link{color: #0000FF;}	The colour can be defined by name or in hexadecimal, e.g. #0000FF is blue
text-align	Specifies horizontal alignment	p{text-align: center;}	Use this to align text left, right or centre

3. HTML & WEBSITE DEVELOPMENT: DESIGN AND LAYOUT

Cascading Style Sheets

- HTML defines the structure and content of your web page
- CSS defines the style and layout of web pages
- CSS can be used to change the style of a whole website, one web page or a single occurrence of an element, e.g.:

```
<h1 style="text-align:center">
```

Embedded Styles

- Style declarations are placed in the **<head>** section of a web page, between new **<style> </style>** tags
- To change the heading colour, for example:

```
<style>
     h1 {color: blue;}
</style>
```

Adding CSS to a web page

Define the style at the top between the **<style>** tags

```
<style>
  h1 {color:blue; text-align:center}
</style>
</head>

<body>

<h1>
  SEE AMAZING SCENERY
</h1>
```

Everything that falls inside that tag or selector in the html body adopts that style

CSS syntax

Responsive design

- Websites are views on different sized screens and so need to adjust using percentages rather than widths,

Good Design

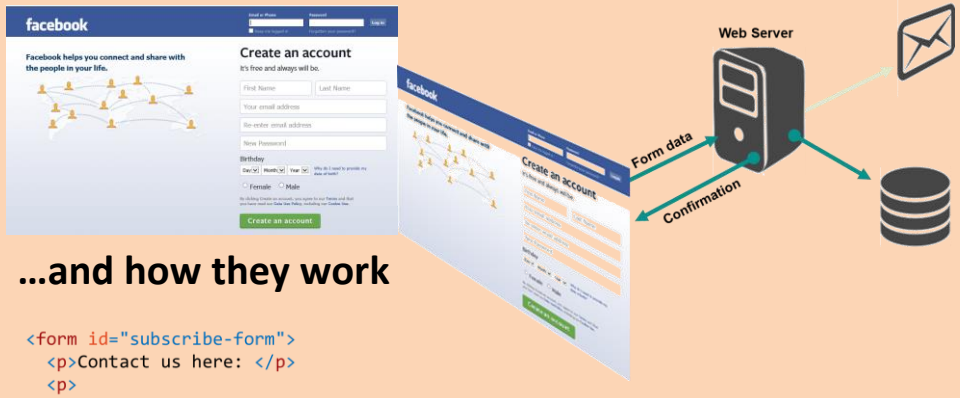
- Limited colour palette
  - Maximum 3 colours (+ black & white)
- Limited font selection
  - Maximum 3 different font styles
- Common interface across all pages
  - All pages in a site look similar with a similar layout
- Navigation bar
  - Helps to find your way around the site

Audience and purpose

- Define your audience clearly
- What is the purpose of your website?
- How will this affect your design?

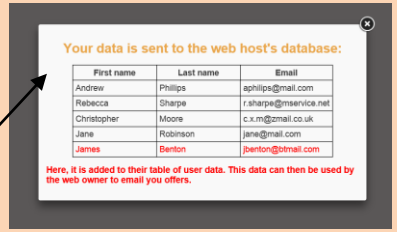
Web forms

Forms are made up of fields and buttons



…and how they work

```
<form id="subscribe-form">
  <p>Contact us here: </p>
  <p>
    <label for="Firstname">Firstname:</label>
    <input type="text" name="firstname">
  </p>
  <p>
    <label for="Lastname">Lastname:</label>
    <input type="text" name="lastname">
  </p>
  <p>
    <label for="Email">Email:</label>
    <input type="text" name="email">
  </p>
  <input type="submit" value="Submit">
</form>
```



4. DATABASES

Year 8 Computer Science – Spring Term

A database table

Record

Car ID*	Make	Model	Class	Seats	Price	Date
356	Kia	Picanto	Mini	4	£29.80	18/01/2013
357	Vauxhall	Corsa	Economy	4	£31.50	24/04/2013
358	Peugeot	308 Estate	Compact	5	£94.79	20/11/2013
359	BMW	E-Class	Luxury	5	£150.56	22/11/2013

Primary Key

Field

A **database** is a collection of data organised in a way that makes it easy for a computer program to **search** and **store** information.

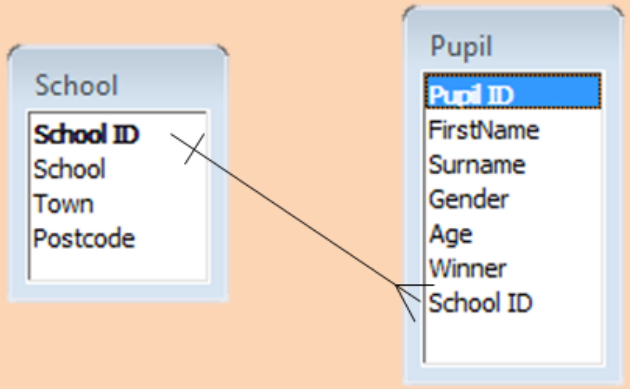
Databases are widely used. Schools, the NHS, supermarkets, Facebook, Google and YouTube all make use of databases. **Any company or organisation that stores large amounts of data almost certainly stores it in a database**.

Operators for Queries

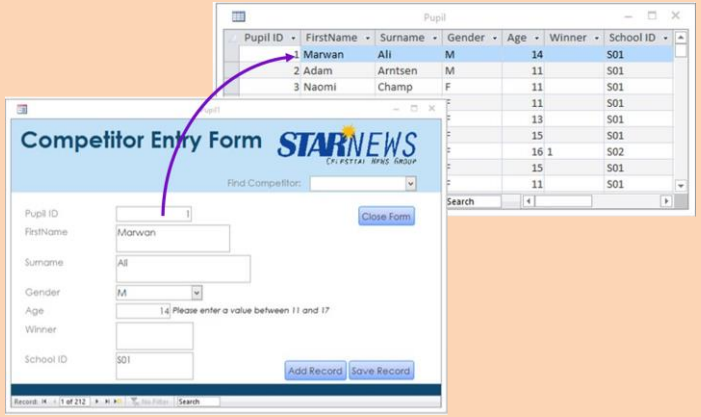
Operator	Meaning	Example
<	Less than	<1.65
<=	Less than or equal to	<=40
>	Greater than	>1.9
>=	Greater than or equal to	>=30
=	Equal to	="M"
BETWEEN	Tests for a range of values	BETWEEN 18 AND 25
OR	At least one of the criteria must be satisfied	"medium" OR "overweight"
NOT	All criteria are satisfied except for the ones specified	NOT "bald"

Databases use **queries** to narrow down **searches**. The **operators** above can help you refine your queries so that you only get the **results** you need.

Relationships



A **relational database** has more than one **table** and the tables are **linked** using **key fields**.



A **form** is used to enter data into the database. Forms are more **user friendly**, and you can also control the quality of the **input** using **validation**. It also stops a user from seeing the rest of the data (the **Data Protection Act**).

Term	Definition/Example
Tables	A collection of data organised into **records** and **fields**
Entity	A table should relate to an **entity** i.e. a person or a thing
Record	A **row** of data in a database
Field	A **column** of data in a table, with the data being of the same type e.g. Forename
Primary Key	A **unique identifier** for a record
Flat file database	A database with **only one table**
A relational database	When more than one entity is involved, each entity needs its own table. The tables have to **link to each other** using a common field.
Relationships	How tables are linked to one another. There are three types: **one-to-one**, **one-to-many**, and **many-to-many**.
Parameterised queries	These allow the user to specify the search criteria when the query is run e.g. **[Enter the make of car]**
Sorting	Arranging data into either **ascending** (lowest → highest) or **descending** (highest → lowest) order.
Calculated fields	A calculated field is a **new field** that can be worked out from other fields in the table e.g. **VAT: 0.2*[Selling Price]**
Data validation	Ensuring that data entered is of the right type. Validation checks include: **Range check**, **Length check**, **Presence check**, **Type check** and a **Format check**.
Web form	Uses the **Internet** to connect to a database via a **webpage**.
Query	Asking a **question** of a database
Report	Outputting data in a **readable** format

African Kingdoms

Empire of **Mali,** 1230 CE – 1460's CE

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

Benin Kingdom, 1200 CE – 1800 CE

Bronze, stone and terracotta trade.

Zimbabwe Kingdom, 1200 CE – 1450 CE

Access to gold and copper mines and ports to trade around world.

Mansa Musa was the 10th Mansa of the **Mali Empire.**

He ruled from 1312-1337

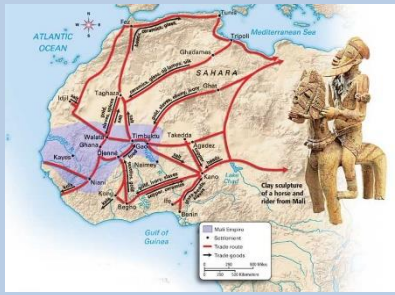
During his rule Malian Empire experienced it's 'Golden Age'.

Mansa Musa was the wealthiest individual in human history.

Medieval world map, the **Catalan Atlas,** produced in 1375.

The Mali Empire was wealthy before Mansa Musa came to power, however during his reign Mali experienced it's '**golden age**', reaching peak of **wealth.**

How did Mansa Musa do it?



Expansion

During his reign Mansa Musa conquered 24 cities. This increased access to resources, slaves to work in mines and taxes to be collected.

Timbuktu

Mansa Musa acquired this city in the 1320's. This was an important commercial centre due to it's ports and location near the River Niger.

Banishing Bandits

Mansa Musa focused on banishing bandits from the countryside. By removing the threat of attack traders were able to extend their routes and began to carry more goods, resulting in larger profits.

Mansa Musa's Control

The Mansa maintained direct communication with foreign traders throughout his empire

Mansa Musa and The Mali Empire

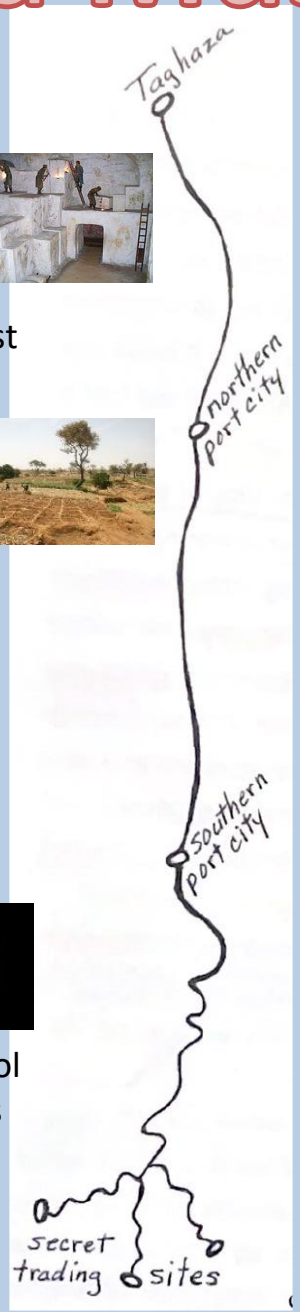
Mansa Musa travelled 9000 miles on a **pilgrimage** to Mecca, during his reign

Mansa Musa is the **richest** man who has ever lived.

Salt Mining
Mali also controlled significant salt mines. Salt was one of the most valuable resources in the Medieval World

Agriculture
Farmers, ranchers and fishermen all became increasingly productive and diversified under Mansa Musa's leadership. This provided a large supply of food, cotton and leather.

Gold Mining
Mines under Mali's control produced large quantities of high-quality gold and copper. Mansa Musa increased the Empire's mining efforts.



Medieval traveller and writer, <u>Ibn Battuta,</u> who visited the Mali Empire records:
"Life in Mali was generally peaceful. He reported that there was very little crime and that the people were always friendly and welcoming"

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

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

Map showing approximate route taken by Mansa Musa in around 1324. His route started in Niani (modern day Guinea) and passed through Timbuktu and Taghaza (Mali) on to Cairo (Egypt) before finishing in Mecca (Saudi Arabia).

Timbuktu was considered *'Jewel of the Mali Empire'*

The atmosphere in Timbuktu must have been reminiscent of the gatherings of intellectuals that transfixed Mansa Musa at Mecca- polishing this jewel on the most easterly tip of his empire would be his great legacy. Even though it was many months' travel from his capital in Niani, and many months travel from his empire's western border, Timbuktu would be Mansa Musa's Florence. It would be the place where he would invest his love- as close to Mecca as his kingdom allowed. Here, in this multi-ethnic city of Songhai, Arabic and Tamashagh cultures, he would deposit his extensive collection of valuable documents.

***Historian* Casely-Hayford**

Mansa Musa was a devout Muslim and wanted to go on Hajj as a fulfilment of Islam to be a good Islamic ruler.	Egypt was powerful so Mansa Musa wanted to visit to show how powerful he was to gain some power.	Mecca was home to the finest Arabic scholars who he wanted to help him make Mali the intellectual capital of the world.	By showing off his wealth to the world, Mansa Musa could try and get more gold trade for Mali by taking it away from Egypt.

The British Empire

Term 4

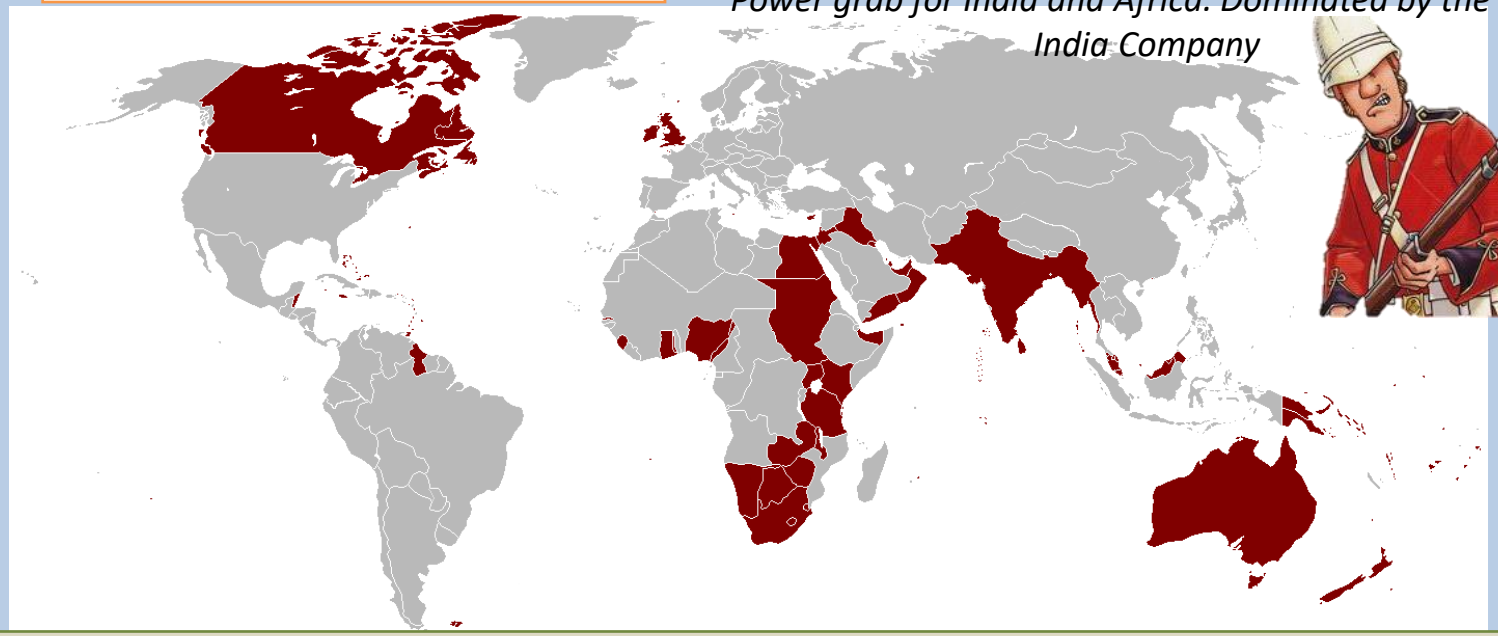
At it's peak in the 1920's the British Empire covered 13.71 million square miles (24% of the Earth's land, equivalent to 94% of the moon's surface)

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



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

Impact of British Empire on Britain

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

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

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

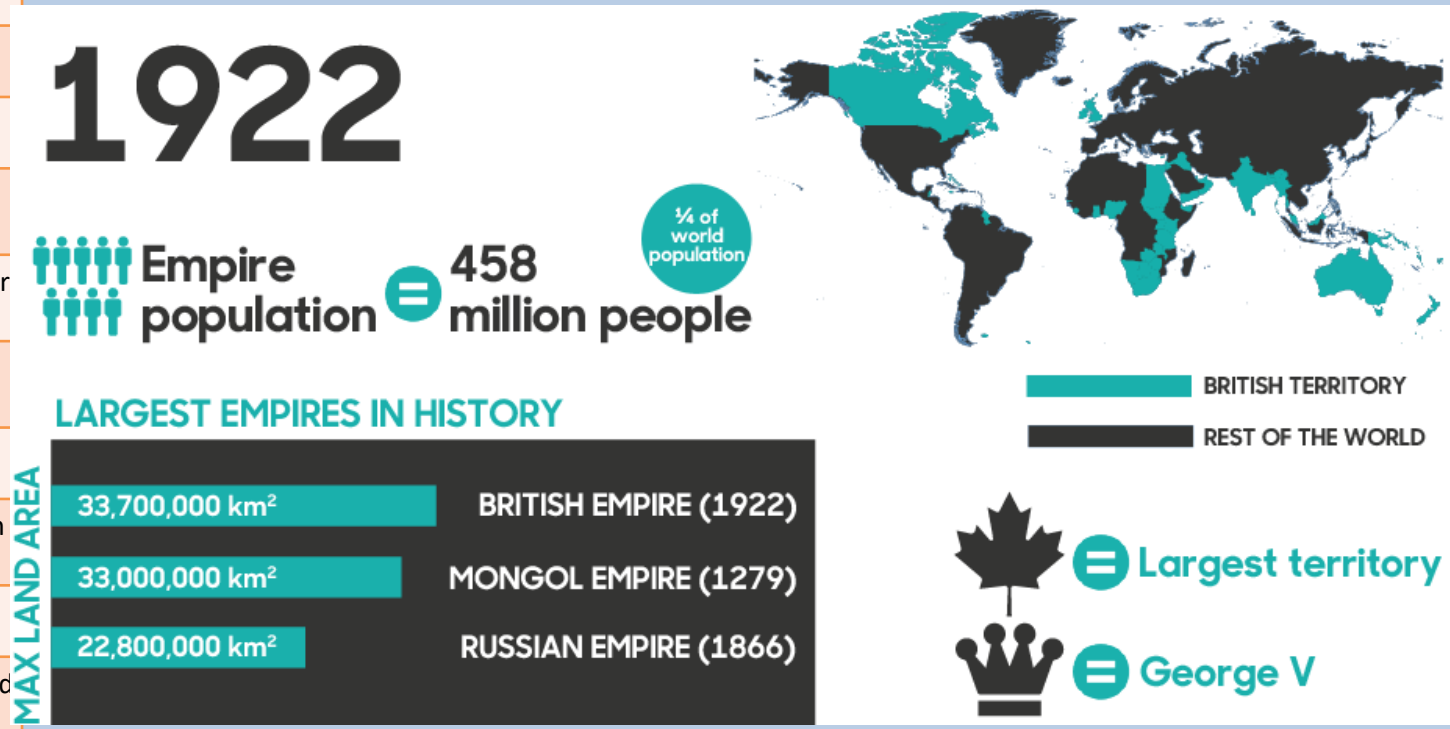
Moustaches became fashion for the Brits to distinguish themselves from Indians

Fingerprinting first developed to control population in India

1585	**First English colonies were formed in north America**
1612	East India Trading Company began to build trading posts in India
1620s	First successful English Colonies in the West Indies
1664	The English take over the Dutch Colony of New Amsterdam, renaming it New York.
1713	British take over New France in north-eastern North America.
1757	Battle of Plassey helps drive the French out of India.
1756-1763	The Seven Years War, Britain won Canada from the French
1775-1783	American War of Independence
1769	Captain James Cook claimed New Zealand for Britain
1770	Captain Cook reaches Australia
1787	First shipment of transported prisoners to Australia.
1839	The Opium War forced China to allow British traders to sell the drug opium into China.
1857	There was a rebellion in India (the Indian Mutiny). The government took over rule of India from the East India Company.
1867	Canada was given 'dominion' (self-governing) status, followed by Australia and New Zealand in 1907.
1876	Queen Victoria was declared 'Empress of India'.
1881–1919	The 'Scramble for Africa' – Britain acquired colonies in Africa stretching from Cairo to Cape Town.
1899–1902	The Second Boer War – the British conquered South Africa.
1919	The Treaty of Versailles gave Germany's colonies as 'mandates' for Britain and France to administer.

Britain wanted to gain an empire for a number of reasons:

- **Trade**
- **Strategic reasons**
- **Religious beliefs**
- **Competition with other nations**



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.

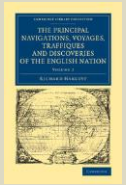
Strong military presence. **Royal Navy** 'ruled the waves' and acted as a deterrent to rebellions or invasions from other empires.

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?

David Olusoga

"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."

Living in the British Empire

India

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.

Trade: 1835 51,777,277 cloths sent from India to Britain. **1853 Railway** network begins to be introduced in India.

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'**

South Africa

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

Britain

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.

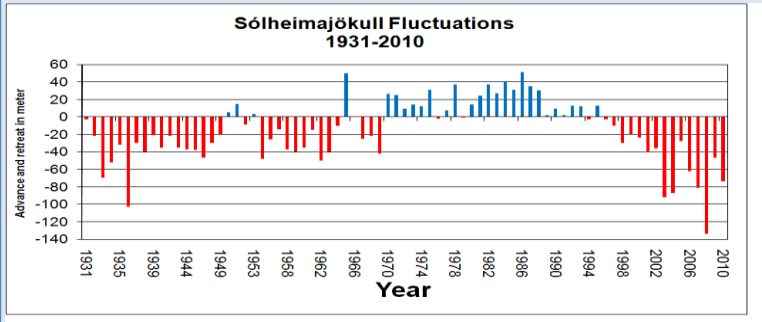
Many **Indian** and **Chinese women** were bought onto journeys to Britain to provide **childcare** and **domestic help** for wealthy white families on voyages. They were often left **abandoned** once arriving in England.

Ice Ages

When the Earth enters an ice age, we call that **a glacial period**. This means ice, mainly in the form of **glaciers**, starts to increase. There have been many ice ages during the last 2.6 million years but when people talk about the Ice Age, they are often referring to the most recent glacial period, which peaked about 20,000 years ago and ended just over 10,000 years ago. We are currently in **an interglacial period** (where temperatures have increased and glacial ice starts to decrease).

What causes ice ages is not completely understood. The composition of the atmosphere, changes in the position of our planet around the Sun, and changes in ocean currents are some of the important factors that control the climate.

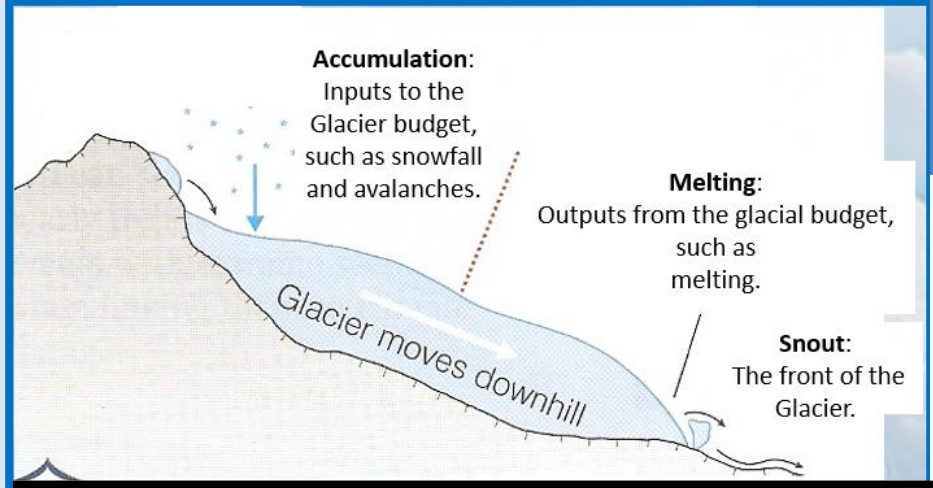
As we are currently progressing through an interglacial stage, we are seeing temperatures rising. This is having a dramatic impact on glaciers, causing many of them to **retreat** and some to even disappear completely! The table below shows the advance/retreat of an Icelandic glaciers over the last 90 years. As you can see by the red bars, it is retreating a lot more than it is advancing . In 2008, it had shrunk by 120 metres in just one year.



What is a glacier and how does it form?

A **glacier** is a huge mass of ice that moves slowly over land. It forms in cold environments and at high **altitudes** where snow falls layer upon layer. Over time, the layers get compacted to ice, like when you squeeze a snowball very hard. If the ice does not melt and snow continues to fall, the ice mass will become bigger and heavier. When the ice mass becomes very heavy, the force of gravity causes it to move downhill, very slowly. As the glacier moves it **erodes** (wears away) the landscape on either side and underneath it, changing the landscape.

If you get a chance, this video helps explain it:
https://www.youtube.com/watch?v=4wNOrFy17WE



Where are glaciers located?

The map to the left shows the location of every glacier at the moment. There are actually glaciers located in every single continent in the world, but Antarctica is the biggest glacier, holding 90% of the world's fresh water, followed by Greenland. Glaciers are found in places further north and south of the equator where a polar climate occurs as well places of higher elevations (mountains) where there is more exposure.

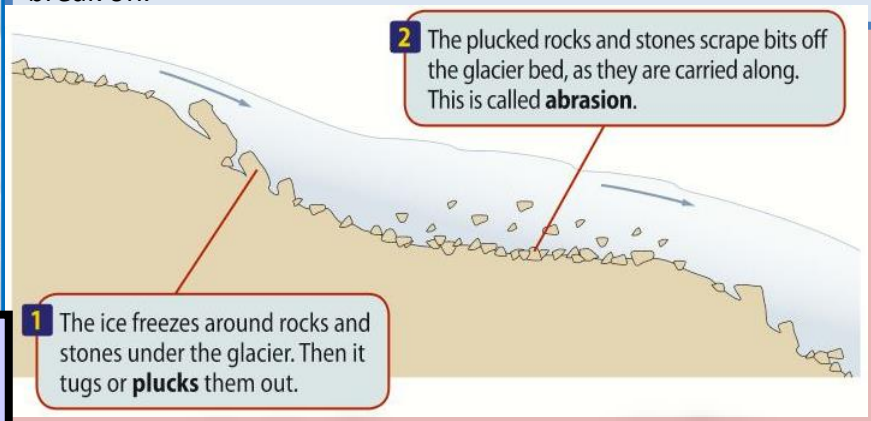
However, as we have already read, these are at risk of disappearing as temperatures start to increase.

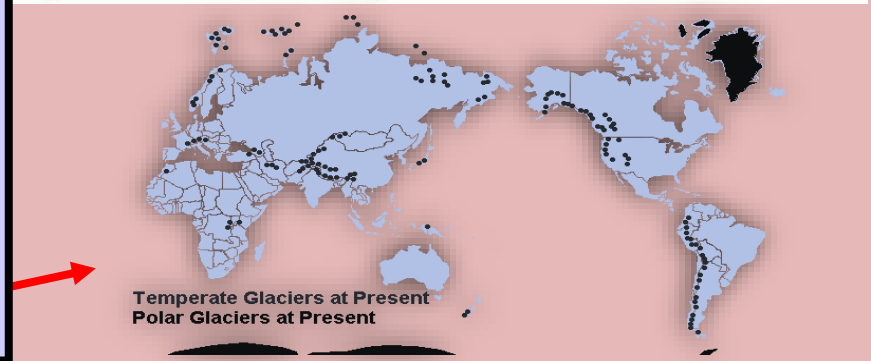
Glacial Erosion and Weathering

Plucking occurs when rocks and stones become frozen to the base or sides of the **glacier** and are plucked from the ground or rock face as the glacier moves. It leaves behind a jagged landscape.

Abrasion occurs when rocks and stones become embedded in the base and sides of the glacier. These are then rubbed against the bedrock (at the bottom of the glacier) and rock faces (at the sides of the glacier) as the glacier moves. This causes the wearing away of the landscape as the glacier behaves like sandpaper. It leaves behind smooth polished surfaces which may have scratches in them called **striations**. Striations are carved out by angular **debris** embedded in the base of the glacier.

Freeze-Thaw weathering also occurs on glaciers as frozen water expands in gaps of rocks which eventually causes the rocks to break off.





Erratics

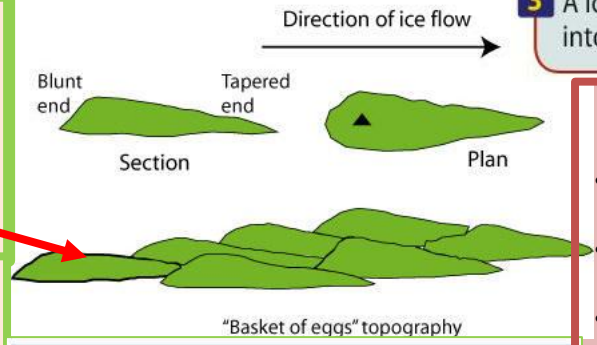
These are large rocks or boulders that are often found on their own, rather than in piles. A glacier has picked up the rocks and transported it away from the glacier. As the ice melted, it could no longer move the rock, so it is **deposited** far away from where it came
They are unusual shapes, unusually large and of a rock type uncommon to the area they have been dumped.

Deposition on Glaciers

As **glaciers** melt the lower they get, the glacier will lose a lot of its energy to transport eroded sediment. This means that it drops material (**deposits** it) in an unsorted mixture. This is what we call **glacial till**. This till might build up to create landforms called **moraines**.

Drumlins

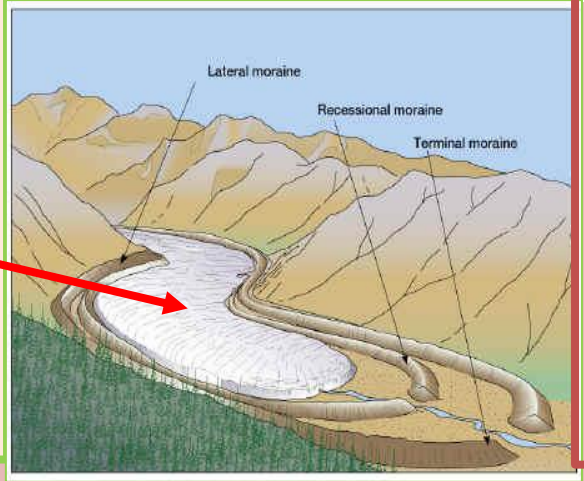
Drumlins are elongated hills of **glacial deposits**. They can be 1 km long and 500 metres wide, often occurring in groups. These would have been part of the debris that was carried along, accumulating under the ancient glacier until it became overloaded with **sediment**.



Moraines

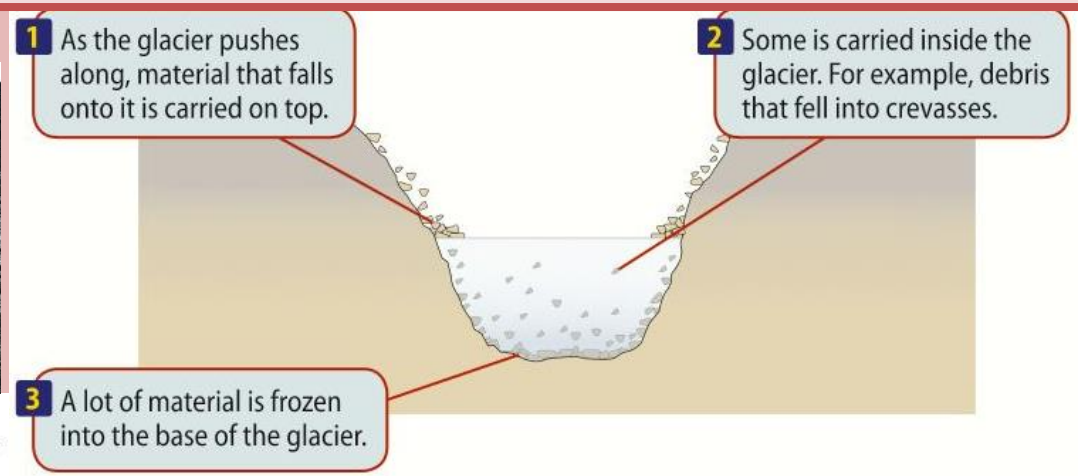
Moraine is a type of landform that is created when a glacier deposits the material (**till**) that it has been transporting. It is made up of unsorted angular rocks. There are five main types of moraine:

1. Lateral
2. Medial
3. Ground
4. Terminal
5. Recessional



Transportation on glaciers

Transportation is all about the movement of eroded sediment on the glaciers. As the glaciers starts to move downhill due to **gravity** and the sheer **mass** of the ice, it starts slumping in a circular motion. This is called **rotational slip.** As the eroded rocks start to move away from the rock face, a **bergschrund** (a gap) is created.



Glossary

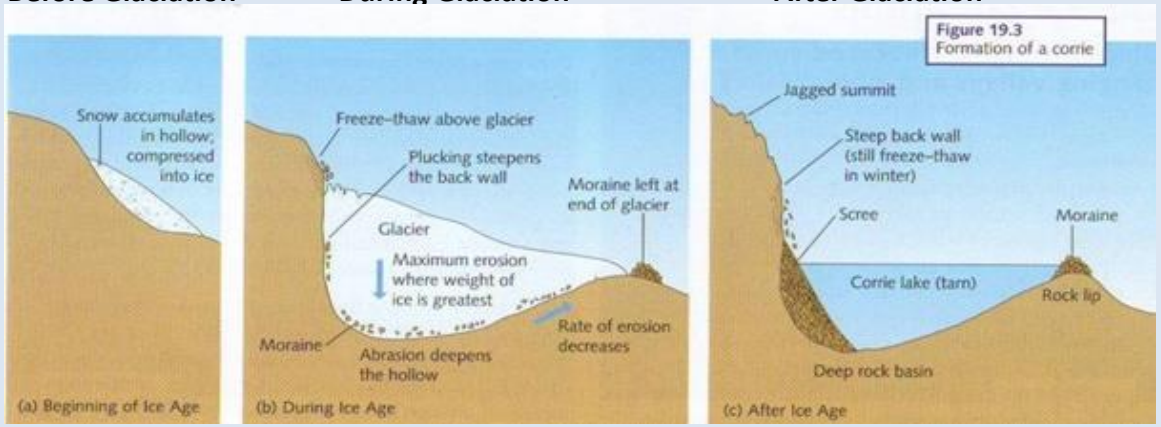
- **Glacier** - huge mass of ice that moves slowly over land
- **Glacial** – Presence of ice in the form of glaciers
- **Interglacial** - relating to a period of milder climate between two glacial periods.
- **Global warming** - a gradual increase in the overall temperature of the earth's atmosphere generally attributed to the greenhouse effect caused by increased levels of carbon dioxide, CFCs, and other pollutants.
- **Altitude** - the height of an object or point in relation to sea level or ground level

Corries

Valley glaciers often start in corries, where snow collects in small hollows and becomes compacted over time, turning into ice. Rotational slip, plucking, abrasion and freeze-thaw weathering cause the hollow to enlarge with a lip at the bottom. After the ice has melted, a small lake called a loch or tarn may appear.

Formation of a Corrie:

Before Glaciation **During Glaciation** **After Glaciation**



Arête

A steep-sided, knife-like ridge that is created when 2 corries form back to back.

Pyramidal peak

A pointed mountain peak formed when 3 or more corries form back to back and meet at a central point.

Truncated Spur

Interlocking spurs of a river valley are sliced away as the glacier moves downhill creating a cliff-like edge.

U-shape Valley

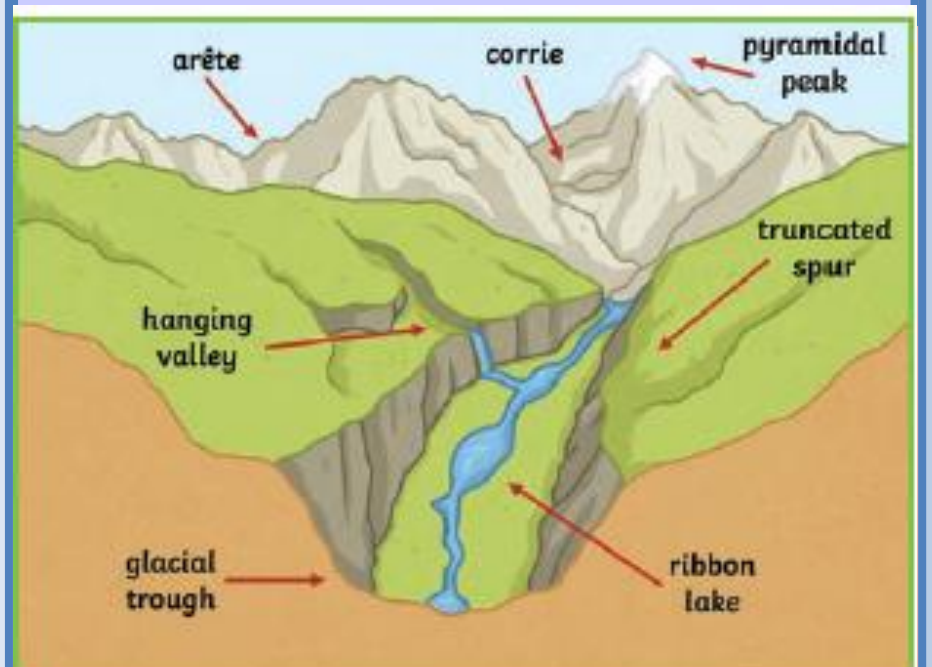
The original v shape river valley is widened and deepened as the glaciers moves downhill through plucking and abrasion, it is now U shaped.

Ribbon Lake

Glacial processes erode areas of soft rock in the valley floor creating hollows that become lakes once the glacier has retreated.

Hanging Valleys

Smaller tributary valleys are sliced away as the larger glacier moves downhill. This makes the smaller valleys seem as though they are hanging above the larger valley. Waterfalls are often found here.



Glossary

Plucking - breaking off pieces of rock by mechanical force

Freeze-thaw - when water continually seeps into cracks, freezes and expands, eventually breaking the rock apart.

Abrasion - the process of scraping or wearing something away

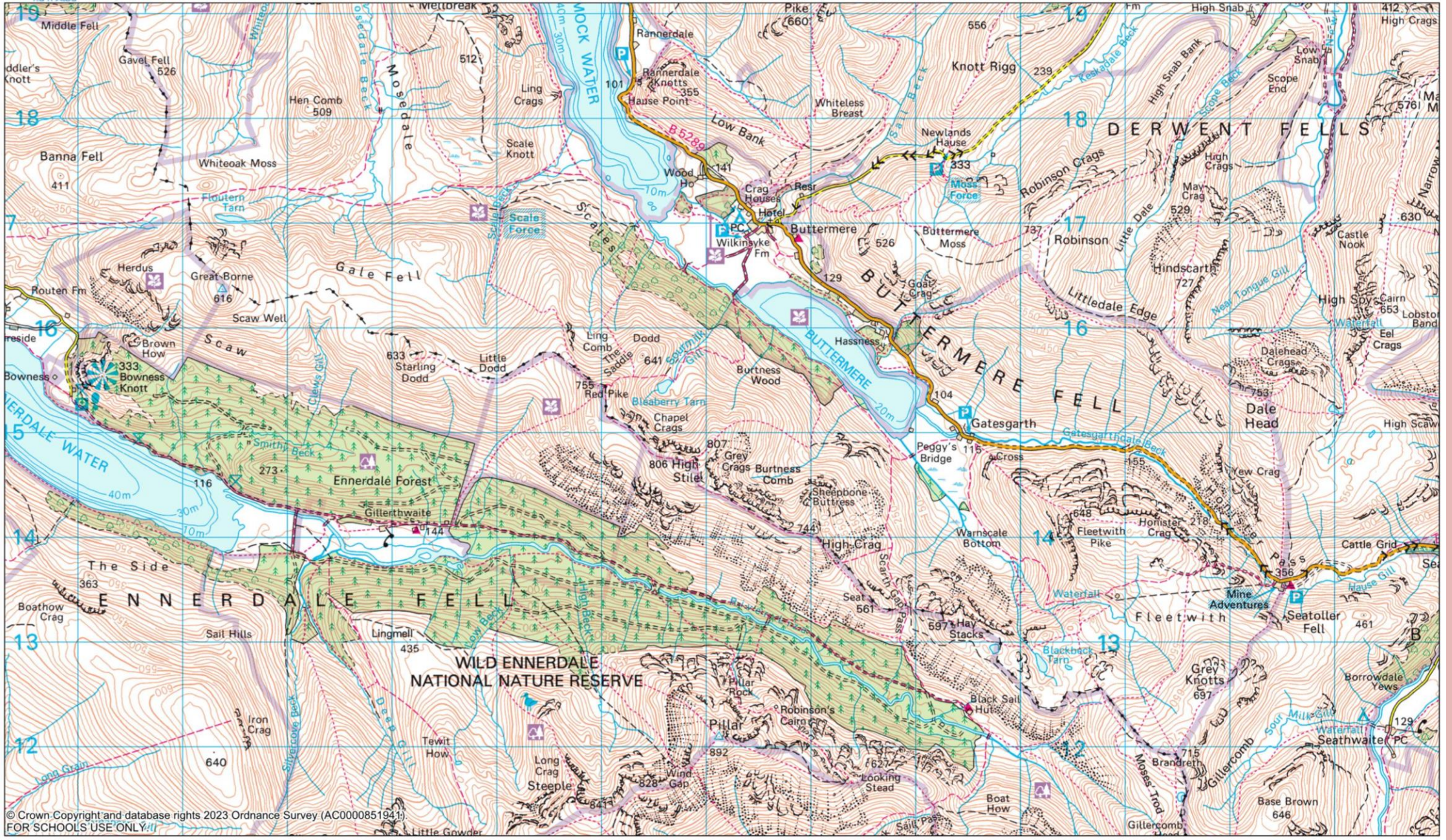
Striation - a groove, created by a geological process, on the surface of a rock

Erosion – Breaking up of a rock through different processes

Deposition – the dropping of sediment after it has been eroded and transported

Transportation – the movement of eroded sediment

Glacial till – unsorted glacial sediment



Digimap for Schools

Scale 1:50000

0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 km

N

The Trafalgar School at Downton

Ordnance Survey

Chamonix – Managing tourism in glaciated areas

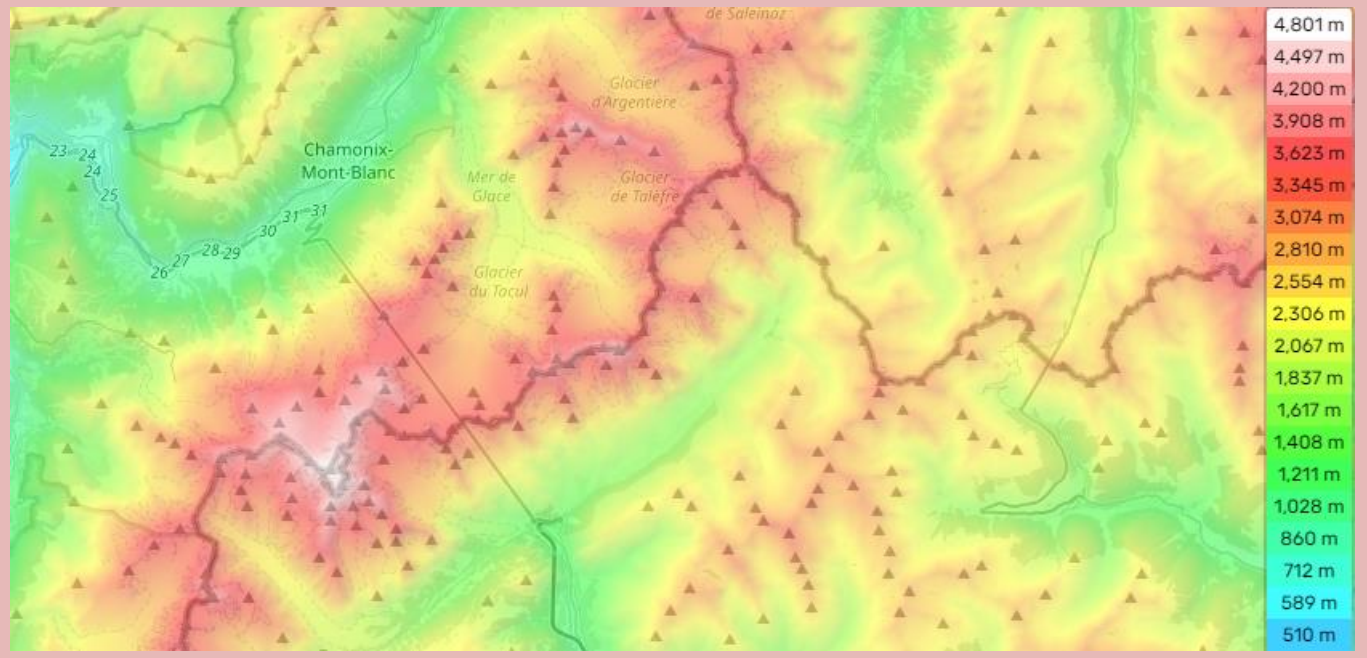
Chamonix is situated in the north-west part of the French Alps. The landscape is dominated by the summit of Mont Blanc, Europe's highest mountain at 4,808m. Chamonix has been a center for tourism for over 250 years. Its stunning landscape has a huge amount to offer outdoor enthusiasts. The resident population of 10,000 a day increases by up to 100,000 visitors a day in summer and about 60,000 a day in winter.

Winter attractions

Chamonix provides a huge range of options for skiers and snowboarders of all abilities. Cable cars and cog railways provide easy access to the ski slopes. Cross country skiing has become popular with two local courses being established nearby. There are opportunities for ice climbing and paragliding. Snowshoe trails offer hikers the opportunity to walk in the area. Chamonix itself caters for winter tourists by providing hotels, restaurants, heated swimming pools and spas. With its museums, shops, and historical buildings, there is much to do away from the slopes making it a more appealing honeypot site for many.

Summer attractions

In summer, the mountain landscapes offer tremendous potential for outdoor activities. The famous Montenvers railway takes visitors to the Mer de Glace, where visitors can see the glacier and the valley it has carved. An ice cave allows visitors to step inside the Mer de Glace glacier. The Chamonix area has about 350km of marked hiking trails, 40km of mountain bike tracks, rock climbing, mountaineering, paragliding, rafting, canyoning, pony trekking and summer luging. The town comes alive in the summer with live music, outdoor cafes and colourful flowers.

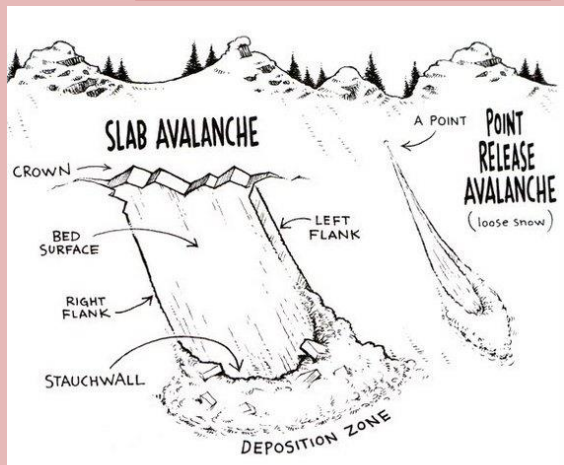


How can tourism be managed to preserve for the future

- At the end of the ski season, fence off slopes and re-seed
- Preserve natural wetlands and peat bogs
- Hotels have solar panels to heat water and lights that automatically turn off – reduces CO_2
- Free public transport is provided for tourists to reduce emissions
- Restrict car access and run transport on HEP.
- Avalanche barriers are placed around the resort

Impacts of tourists in Chamonix

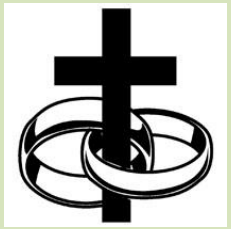
☺ Extra income supports local services such as shops. Local people benefit from improvements in transport and healthcare.	☹ Large numbers of tourists cause a lot of traffic, which increases pollution, e.g. a study from 2002-2004 showed that traffic pollution was worse in the Chamonix region than in the centre of Paris.	☹ The town can become noisy and congested. Access to Chamonix via motorway is good, but in Chamonix itself the roads are narrow and become jammed easily.	☺ Tourists bring huge economic benefits; employment for local people in hotels and restaurants, in sports facilities and as guides and instructors. Also construction and maintenance jobs for locals.
☺ Lots of jobs created; 2500 people work as seasonal workers every year.	☺ Chamonix is maintained as an attractive town. Pedestrian streets give people safe access to shops and the town is clean and well lit.	☹ The types of jobs available in Chamonix have changed from farm labouring to jobs in restaurants and hotels.	☹ Mountain footpaths have become eroded due to the sheer volume of visitors, both walking and using mountain bikes.



BVT: Is marriage necessary?

Why do people get married?

- Love
- Commitment
- Devotion to God
- To have children – **Procreation**



Marriage Ceremonies

Christianity

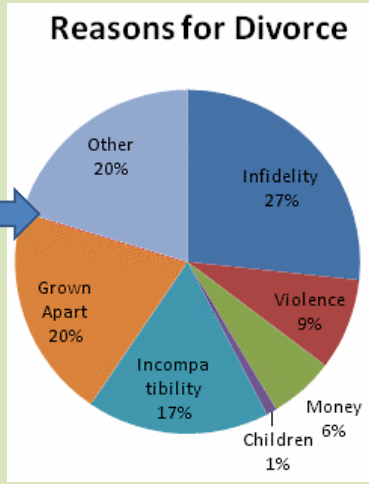
- Bride and Groom get married in church
- The Marriage is a bond between the couple and between them and God
- Marriage is a ***sacrament*** – an important part of being a Christian
- *"Man shall leave his mother and father and will join with his wife and become one flesh"*
- Christians will also get married to have a family, this is called ***procreation.*** *"Be fruitful and multiply" Bible*
- Christians cannot have sex outside of marriage, this is called ***chastity***

Islam

- Many Muslims have arranged marriages
- A marriage ceremony / contract is called a ***Nikkah***
- The wedding can last up to 5 days
- The wedding can happen in the home and / or a mosque
- A ***dowry*** is paid to the bride. This is a gift from the groom to his new wife
- Muslims will get married to join two families together.
- They will also get married to have a family, this is called ***procreation –*** Muhammad had 7 children!
- Muslims cannot have sex outside of marriage, this is called ***chastity***

Why do marriages break down?

"Thou shall not commit adultery" 10 Commandments



Religious beliefs about divorce

Catholics	Muslims
• Catholics don't agree with divorce • Marriage is a sacrament and marriage vows cannot be broken • *"So they are no longer two but one flesh. What therefore God has joined together, let not man separate."* Bible	• Muslims **do not encourage** divorce as Muhammad said *"Marry and do not divorce"* • But, divorce is **acceptable** as a last resort • Counselling is given for 3 months to try to solve problems to avoid divorce • If after counselling divorce is still wanted, then the man states "I divorce you 3 times", whereas a woman must seek approval at a Islamic council / Imam at their mosque • Half the dowry must be returned by the wife to husband

Same Sex relationships

1967 – Homosexuality became legal in the UK
2014 – Same sex marriages became legal

Why should same sex couples be allowed to marry?
- So they can marry the person they love
- Equality of rights
- Inclusion within society

Why may some people object to homosexual marriages?
- Tradition
- Procreation – to create children or raise children
- Religion

Glossary – Key terms for this unit

Arranged marriage – In Muslim families the parents help the children to form a marriage union. Both parents AND CHILDREN will agree to the marriage.

Chasity – not having sex before marriage

Dowry – a gift given by a Muslim groom to his bride. It can be money, a house, jewellery…

Forced marriage – a marriage when parents FORCE their children to get married. It often involves teenage children / young adults. In England they are often forced to leave the country and marry someone older in a middle eastern culture. It is a CULTURAL marriage NOT religious.

Honour violence / abuse – when a family exerts violence and sometimes death onto one of their family members (often children) for dishonouring the family. Examples this could be for are: homosexuality, adultery, refusal of marriage

Nikkah – the name of the Muslim marriage contract / ceremony

Procreation – to have children

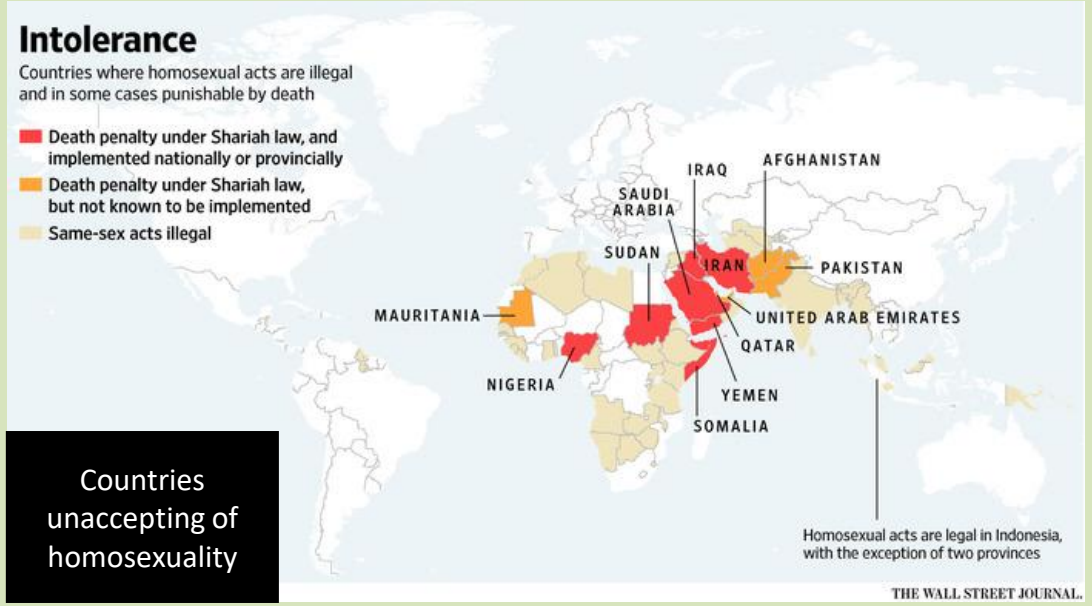
Sacrament – meaning sacred or special. In Christianity these are special key events in a Christians life

Religion and scripture that is against same sex relationships

- Catholics are against same sex relationships. They believe the main reason for marriage is procreation
- Catholics are taught marriage is a bond between man and woman. *"You shall not lie with a male as with a woman; it is an abomination (disgrace/outrage)"* (Old Testament)
- *The Qur'an states sex should only be between and man and woman. "If your lusts on men in preference to women…We will rain down a shower of stones" from the Qur'an*

Religion and scripture that supports same sex relationships

- Many Christians are happy with homosexuality as God made humans in his image – shows equality amongst all.
- *"Neither Jew nor Greek, slave nor free, male nor female, for you are all one in Jesus Christ" Bible*
- *"God made man in his image" Bible*
- Quakers (Christians) see God as All Loving and therefore homosexuality is declaring your love. They have been marrying homosexuals in their places of worship for nearly a decade now.
- The Church of England will bless gay marriages.



Countries unaccepting of homosexuality

BVT: The Origins of Islam - The Life of Muhammad

Muhammad was the founder of the religion of Islam and is considered by Muslims to be a messenger and prophet of God. Muslims believe he was the last of the Islamic prophets, which included Noah, Abraham, Moses and Jesus.

Born in 570 in the Arabian city of **Mecca**, he was orphaned at an early age and brought up by his uncle, Abu Talib.

Muhammad worked as a merchant / trader, and was married by age 25. He spoke up for people in his community.

He was not happy with his life in Mecca but could not understand why. He realized that, in Mecca, no one cared about the poor and the needy. People believed in evil spirits and magic and worshipped many different idols, rather than Allah who he believed in.

Muhammad wondered if there was anything that would show these people how to live better lives. He decided to leave Mecca and spend time in a cave outside the city, thinking about these things. According to Islamic beliefs it was here, that he received his first message from God at the **Night of Power**.

The Night of Power

- One day, Muhammad had a strange feeling that he was no longer alone. "Do not be afraid," said a voice. Muhammad rubbed his eyes and stared – it was the **Angel Jibril.**
- Jibril showed Muhammad some words. 'Read!' the angel commanded. But Muhammad had never gone to school. He had never learned to read or write. The angel repeated his command 3 times, before squeezing Muhammad, so hard that he thought that he would faint.
- The angel released Muhammad and he began to read out the beautiful words. **Muhammad immediately knew that these words came from God.** He listened carefully and was able to remember everything the angel said.
- Over 23 years Muhammad recited these words from Allah /God (his **revelations**). They ere written down.
- These were written down to create the **Qur'an**, the Holy Scripture for Muslims.

The picture above is of **Cave Hira** – the cave in which Muhammed received his first revelation.

Cave Hira is a popular pilgrimage site for Muslims to visit.

Key Terms	Definitions
Mecca	City in Saudi Arabia where Muhammad lived
Medina	First city in Saudi Arabia Muhammad converted to Islam
Islam	Name of the religion Muhammad founded; Muslims are part of this religion
Cave Hira	Where Muhammad had his Night of Power
Revelations	When God reveals himself to someone – words or visions
Angel Jibril	Angel sent by God or Allah; Also known as Gabriel
Prophet	A chosen man by God to teach others about God

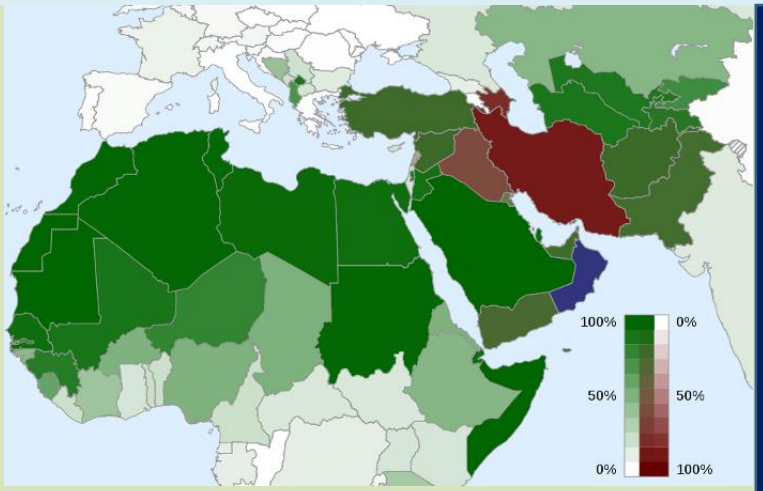
The story of how Islam began: Scan below:

There are no images or paintings of Muhammed – to create one is deemed disrespectful in Islam.

If you search Prophet Muhammed you find his name in Arabic, but no pictures. This is very different to Christianity, which has many paintings of Christ.

Muhammed spreads the word of Allah

- Muhammad did not win many followers to begin with, and some tribes around Mecca did not like his message, so he and his followers were treated harshly. At one point the ruling tribes even put a price on his head! And his life was threatened.
- To escape from this danger, Muhammad and his followers in Mecca went to **Medina** in the year 622. This event is Muhammad's migration or escape, which is called the **Hijra.**
- Muhammad was welcomed in Medina and became the first city that Muhammad converted to Islam. However his conversion of Mecca to Islam was much harder and he had to **fight 3 battles**.
- Muhammad managed to unit the tribes and gain a following of 10,000 followers who helped him conquer and establish Islam.
- In 632, Muhammad fell ill and died. By the time of his death, he had united the tribes of Arabia into a single group who all followed the religion of Islam, and most people who lived on the Arabian Peninsula were Muslims.
- To Muslims, Muhammad is so holy and important, that the phrase *'Peace Be Upon Him'* is always said when his names is mentioned.



Green is the % of Sunni Muslims
Red is the % Of Shi'a Muslims

Sunni and Shi'a Muslims.

- Like in other faiths, there are different groups of Muslims.
- This came about after the **death of Muhammad**. Some Muslims believed that Muhammad's cousin Ali should have been the next leader of Islam; they formed a group called Shi'a Muslims.
- However, other Muslims believed that the next ruler should be elected, which fitted with Arab tradition where they lived. These Muslims formed a group called the Sunni Muslims. 90% of Muslims in the world are Sunni Muslims.
- Both Muslims have very similar beliefs and follow the teaching of Muhammad and are dedicated to Allah; however there are small differences to their beliefs and practices, just like within Christianity.

Books associated with Muhammad: The Qur'an, the Hadith, the Sunnah

- The Qur'an was dictated by **Angel Jibril** (from Allah) to Muhammad over 21 years.
- The Qur'an was written over **23 years** (2 years after his death too).
- It was dictated by Muhammad and scribed by followers and the next leader of Islam, called the Caliph, after Muhammad's death.
- It has authority to Muslims as it is the words of Allah and has never been translated or changed throughout history. *"Falsehood shall never come to it" (Qur'an)*
- The **Hadith** is a book of Muhammad's teachings and life. The **Sunnah** is the book of Muhammad's practices. Both were written after Muhammad's death by his followers.

Key Term	Definitions
Medina	First city in Saudi Arabia Muhammad converted to Islam
Hijra	Journey when Muhammad fled Mecca and went to Medina
Qur'an	Holy scripture / book for Muslims
Hadith	Book of Muhammad's teachings and life
Sunni	Main Muslim group. Sunni Muslims make up most of African Muslims and parts of the Middle East
Shi'a Muslims	Smaller Muslim group; found dominant in countries such as Iran and Iraq

Nature (Qualities) of Allah

Monotheism - Muslims believe in one god, Allah - they are **monotheists**.

Muslims follow important ideas to show their beliefs about Allah – for Sunni Muslims this is the **6 Articles of Faith** (see below)

Tawhid - the belief in the **oneness** and unity of Allah as expressed in the first of the five **Pillars of Islam**, the **Shahadah**. Belief in this oneness or unity of Allah is essential. *"He is Allah, One" Quran*

Angels – messengers of Allah. They deliver messages from Allah to prophets. The Angel Jibril is most important as it was **Jibril** that revealed Allah's beliefs to Muhammad.

Predestination – this is the idea that **Allah is all knowing (Omniscient) and seeing** in Muslims lives. Muslims believe that nothing is random and Allah has to some extent control over what will happen to Muslims. *"He is with you wherever you may be" Quran*

- Allah is **Tawhid**
- **Predestination**
- Holy Texts, including the Qur'an
- 6 Articles of Faith
- Allah is just and fair (**Adalat**) e.g. Day of Judgement
- Prophets will teach about Allah
- Angels

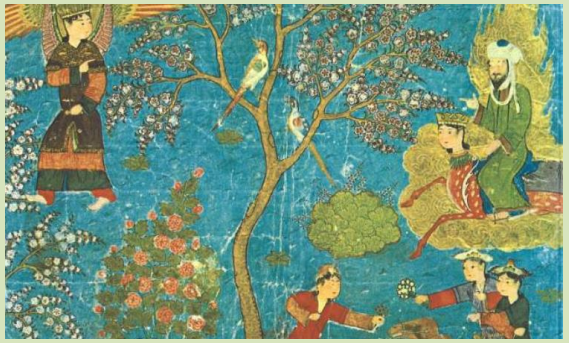
"We will show you the truth of what you did" Qur'an

Afterlife

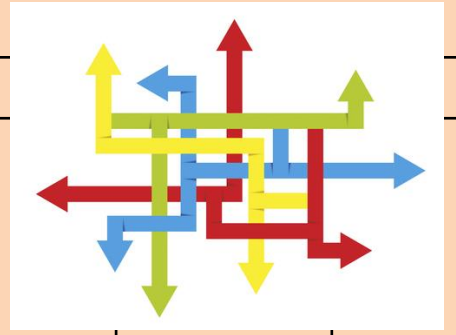
Akhirah – the belief in everlasting life after death. Muslims believe that this life is merely preparation for the eternal life or **Akhirah**. Every act of good and bad that a Muslim does is recorded by Allah, so they must act in a way that benefits them in Akhirah.

Hell is a place of fire, pain, misery and torture.

Heaven or paradise is a place with no suffering where there is no pain and your desires are fulfilled. You can go to paradise by your actions and gaining forgiveness for your sins.



Year 8 French - Directions



Pour aller à la pharmacie... *(How do you get to the pharmacy?)*					
Pour aller … *(How do you get…)*	à la piscine *(to the swimming pool)* à la gare *(to the train station)* à la boulangerie *(to the bakery)* à la boutique *(to the clothes shop)* au marché *(to the market)* au musée *(to the museum)* au bowling *(to the bowling alley)* au salon de coiffure *(to the hairdressers)* à l'hôtel de ville *(to the town hall)* à l' église *(to the church)* à l' épicerie *(to the grocery shop)*	Allez tout droit *(go straight on)* Tournez à droite / gauche *(turn right/left)* Prenez la première / deuxième / troisième rue... *(Take the first/second/third road)* Passez le pont *(go over the bridge)* Passez les feux *(go past the traffic lights)* Croisez la place *(cross the square)*	*c'est (it is)*	en face de **(du)** *(opposite)* à côté de **(du)** *(next to)* derrière *(be hind)* devant *(in front of)*	la piscine *(the swimming pool)* la gare *(the train station)* la boulangerie *(the bakery)* la boutique *(the clothes shop)* **le** marché *(the market)* **le** musée *(the museum)* **le** bowling *(the bowling alley)* **le** salon de coiffure *(the hairdressers)* l'hotel de ville *(the town hall)* l' église *(the church)* l' épicerie *(the grocery shop)*

Qu'est-ce qu'il y a? *(What is wrong?)* **Qu'est-ce que vous avez? (***What happened?)*

J'ai mal... *(My …hurt(s))*

au ventre *(stomach)*
au bras *(arm)*
au dos *(back)*
à la jambe (*leg)*

Je ne me sens bien
(I don't feel well)

Je me sens malade
(I feel ill)

J'ai un rhume
(I've got a cold)

Je suis enrhumé (e)
(I've got a cold)

Je tousse
(I've got a cough)

J'ai de la fièvre
(I've got a fever)

J'ai froid / chaud
(I'm cold/hot)

J'ai la grippe
(I've got the flu)

Je me suis cassé(e) la jambe
(I've broken my leg)

Je suis tombé (e)
(I fell (over))

Je me suis coupé (e) le doigt
(I've cut (my finger))

Vous devez *(you have to)*

Tu dois *(you have to)*

Il faut *(you must)*

boire de l'eau
(drink water)

aller tout de suite à l'hôpital
(*go to the hospital immediately*)

mettre ce crème
(put on this cream)

prendre ce sirop
(take this syrup)

prendre de l'aspirine / paracétamol
(take an aspirin)

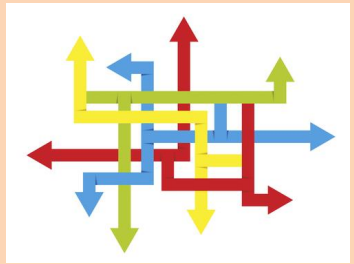
rester à la maison
(stay at home)

Watch the video. How much can you follow?

¿Cómo se va a la farmácia? *(How do you get to the pharmacy?)*

YEAR 8 DIRECTIONS

¿Dónde está … ?
(Where is …)



el mercado *(the market)*

el museo *(the museum)*

la bolera
(the bowling alley)

la iglesia *(the church)*

la piscina
(the swimming pool)

la estación de trenes *(the train station)*

la frutería
(the grocery shop)

la panadería *(the bakery)*

la peluquería
(the hairdressers)

la tienda de ropa
(the clothes shop)

Sigue todo recto
(go straight on)

Gira a la derecha/izquierda
(turn right/left)

Toma la primera / la segunda/la tercera calle *(Take the first/ second/ third road)*

Pasa el puente
(go over the bridge)

Pasa los semáforos
(go past the traffic lights)

Cruce la plaza
(cross the square)

está *(it is)*

enfrente
(opposite)

al lado *(next to)*

detrás *(behind)*

delante
(in front of)

del mercado
(the market)

del museo *(the museum)*

de la bolera *(the bowling alley)*

de la iglesia *(the church)*

de la piscina *(the swimming pool)*

de la estación de trenes *(the train station)*

de la frutería *(the grocery shop)*

de la panadería *(the bakery)*

de la peluquería *(the hairdressers)*

de la tienda de ropa *(the clothes shop)*

¿Qué te pasa? *(What is wrong?)*		**¿Qué te pasó?** **(***What happened?)*	
Me duele *(My …hurt)* Tengo dolor de *(I have ...ache)*	el estómago *(stomach)* el brazo *(arm)* la espalda *(back)*		*beber agua* *(drink water)*
Me duelen *(My …hurts)*	las piernas (*legs)*		*ir al hospital (inmediatamente)* *(Go to the hospital immediately)*
Estoy enfermo/a *(I don't feel well)*	Me siento mal *(I feel ill)*		*ponerte esta crema* *(put on this cream)*
Estoy cansado/a (*I'm tired)*	Tengo sueño (*I'm sleepy)*	Tienes que *(you have to)*	*tomar este jarabe* *(take this syrup)*
Tengo un resfriado (*I've got a cold)*	Tengo tos (*I've got a cough)*	Hay que *(you have to)*	*tomar una aspirina* *(take an aspirin)*
Tengo fiebre (*I've got a fever)*	Tengo frío/calor (*I'm cold/hot)*	Debes *(you must)*	*descansar en casa* *(rest at home)*
Tengo gripe (*I've got the flu)*	Me caí *(I fell (over))*		*ponerte una tirita* *(put on a plaster)*
Tengo la pierna rota (*I've got a broken leg)*			
Me he cortado (el dedo) *(I've cut (my finger))*			

The Fundamentals of Art

ESSENTIAL EQUIPMENT:

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

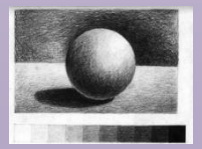
OPTIONAL EQUIPMENT:

- DRAWING PENS
- WATERCOLOUR SET
- WATERCOLOUR PENCILS
- PAINTBRUSHES

THE FORMAL ELEMENTS:

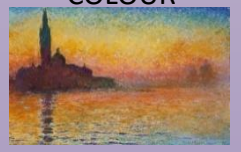
LINE

TONE



SHAPE/FORM

COLOUR



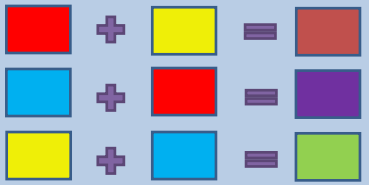
TEXTURE

PATTERN

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…



ATTITUDE

Be positive and try your best!

RESPECT

Respect others, work and the room

THINK

Understand and demonstrate.

IMAGIINE

Be creative, use you imagination!

SPOTLESS

Tidy up after yourself.

TARGET

Follow directions.

MARK MAKING AND ARCHITCETURE
PERSPECTIVE
TWO POINT PERSPECTIVE
ONE POINT PERSPECTIVE
PARALLEL
HORIZONTAL
VANISHING POINT
DISTANCE
SPACE
DIRECTION
MOVEMENT
LINEAR
OVERLA[[ING
LAYERING

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

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

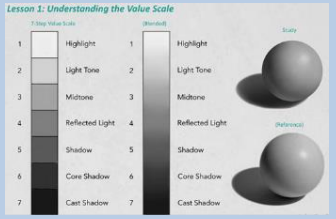
SHAPE/FORM/SPACE
CLOSED
OPEN
DISTORTED
FLAT
ORGANIC
POSITIVE
NEGATIVE
FOREGROUND
BACKGROUND
COMPOSITION
ELONGATED
LARGE
SMALL
2D
3D
TWISTED
JAGGED

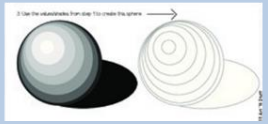
PATTERN AND TEXTURE
REPEATED
UNIFORM
GEOMETRIC
RANDOM
SYMMETRICAL
SOFT
IRREGULAR
UNEVEN
ROUGH
BROKEN
GRID
FLAT
WOVEN
ORGANIC
SMOOTH
ABSTRACTED

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?

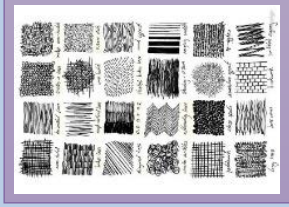




LANDSCAPES

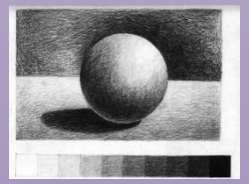
KEY FORMAL ELEMENTS LINKED TO LANDSCAPE ART

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.




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**




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

Patterns can be manmade or natural.


ACRYLIC PAINTING

Acrylic paint is water soluble but once it dries it becomes water resistant, this means you need to be conscious of how quickly you apply your paint.
You can leave areas of the paper which will act as a highlight or you can layer on white paint towards the end of your painting.


PAINTING

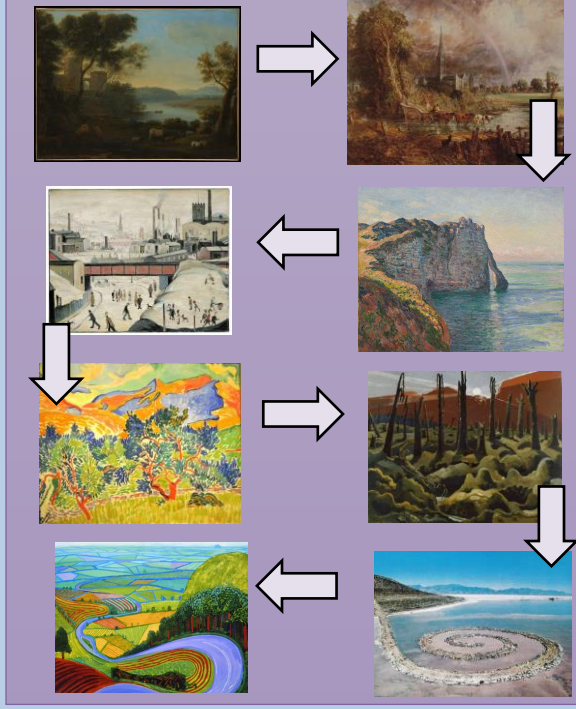
- Apply base tones first, start with lighter tones and layer to create depth of tone and detail.
- Mix your colours to create more varied tones.
- Change your brush type to create finer detail over your layers. Larger, flatter brushes will cover more surface area and are good for base tones, as you start to add more detail, swap to a smaller, more rounded brush.

WATERCOLOUR PAINTING

Watercolour paint is water soluble, water can be added even when dry and this will dilute some of the paint. This means there may be times you need to wait for a section to dry before applying more paint.
With watercolour it is easier to leave areas of the paper white which will act as a highlight.


Mini History of Landscape Art

- From the 17th century, western artists started to paint and draw landscapes as a single image, not just to form part of a background.
- In 19th century Britain, naturalistic art became popular, with the idea that nature was a reflection of God and to reconnect with it after the industrialisation of Britain.
- Later, in France, the impressionists not only revolutionised western art, with their new use of colour and line, replacing more traditional styles.
- In the second half of the 20th century, the definition of landscape art changed to include urban and industrial landscapes. This included the introduction of land art, with artists putting work directly into nature.



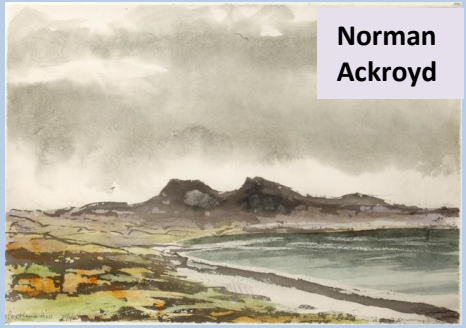
Artists you could research:

Paul Cezanne
David Hockney
Etel Adnan
Norman Ackroyd
Katsushika Hokusai
J.M.W Turner
Claude Monet
Erin Hanson
Camilla Perkins
Julie Avisar
Vincent Van Gough
Paul Nash

MIXED MEDIA

Mixed or multi media is when you use more than one material in a single piece of work.
Acrylic paint and oil pastel, watercolour and fine line, collage and acrylic and pen.
By creating a mixed media piece, you can create a range of visual and actual textures within the work while building depth of tone and detail.

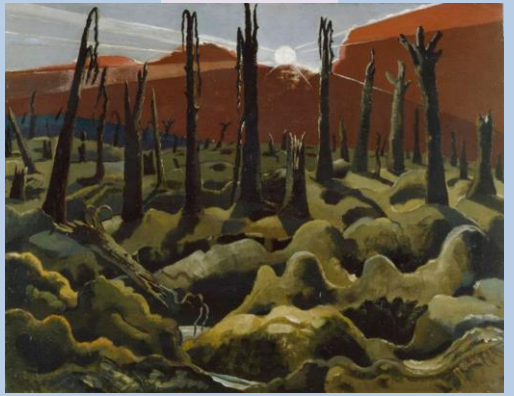
LANDSCAPES


Norman Ackroyd


Erin Hanson


Etel Adnan

Paul Nash



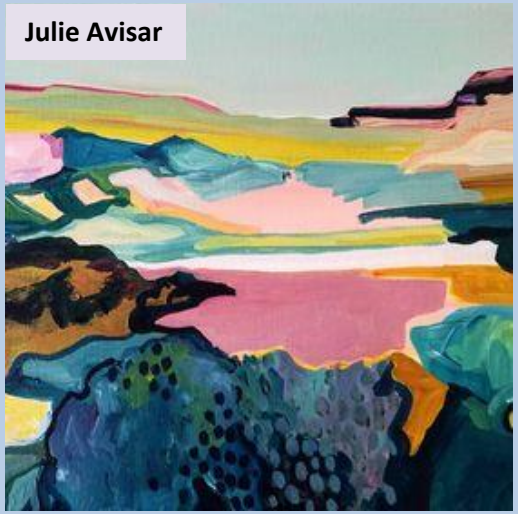

Claude Monet


Katsushika Hokusai

What do these artworks have in common?
How might they have been made?
How could you create your own version?
Why might artists want to paint the landscapes?
How would you describe these artworks?


Vincent Van Gogh

Julie Avisar

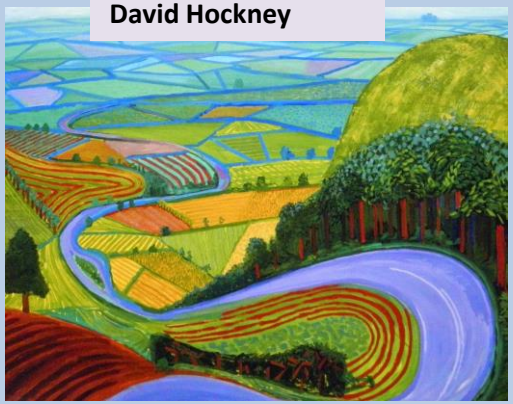



Paul Cezanne

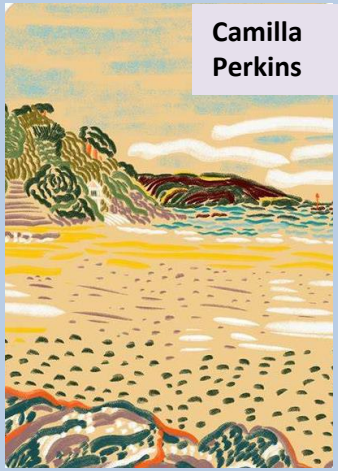

Angie Lewin


J.M.W Turner

David Hockney



Camilla Perkins



Year 8 Music

This project develops your ability to recognise, explore and make creative use of the elements of music found in variation form.

By working with a famous theme we will explore different musical ways in which this can be varied and developed, using the elements of music and exploring changes in tonality and rhythm. You will explore how composers have used variation form in a selection of music from different times and places.

- You will develop knowledge and understanding of the elements of music and how these can be manipulated to provide musical variation
- Explore how other musical devices such as tonality and rhythm can be used to provide musical variation
- Explore how Theme and Variations and Ground Bass give Form and Structure to a musical composition

Watch and Listen

Watch this awesome pianist Cateen transform Happy Birthday by taking it through various stages of variation form.

And here with seven variations of Mozart's Twinkle Twinkle Little Star!

Johann Pachelbel was a German composer who composed Canon in D. Little did he know at the time that his simple bass line and chord progression would be copied and varied so much by so many other musicians. Here is a comedy music ensemble from Spain called Paganini. They completely transform the piece using Variation Form

D Dynamics (volume)

R Rhythm (order of Musical Events)

P Pitch (Highness or Lowness of a note)

S Structure (how the composition is built)

M Melody (the tune)

I Instrumentation (instruments used when composing)

T Tempo (the speed of the Music)

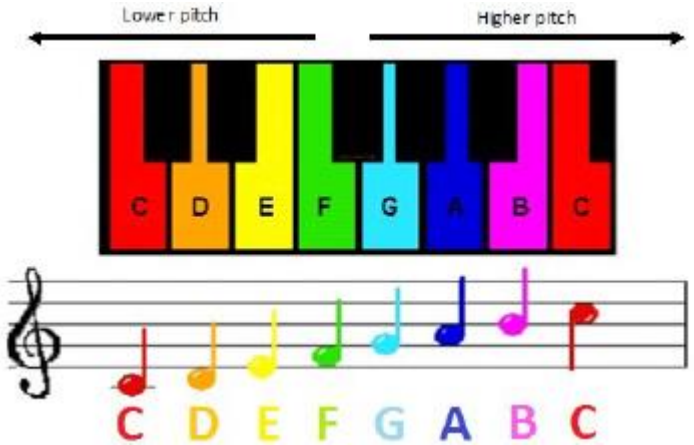
H Harmony (This supports the melody)

Variations

Variations

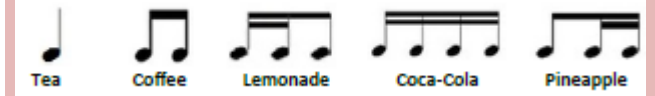
Section 1: Key Words	
Theme	The main melodic idea
Variation	Changing the theme to make it sound different
Ostinato	A repeating rhythm or melody
Tonic & Dominant	The 1st and 5th notes (or chords) of the key you are in.
Parallel motion	Two notes at a time: always the same distance apart.
Sequence	Repeating a short tune up or down one note each time.
Contrary motion	Moving in opposite directions.
Inversion	Play the tune upside down.
Retrograde	Play the tune backwards.
Countermelody	An extra tune on top.

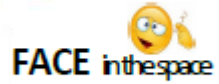
Section 2: Key Words	
Call and response	A melody sung by one singer/performer is echoed by another singer/performer
Accompaniment	The music that is played to support the melody.
Tempo	The speed of the music
Dynamics	The volume of the music
Triple Time	Three beats in a bar.

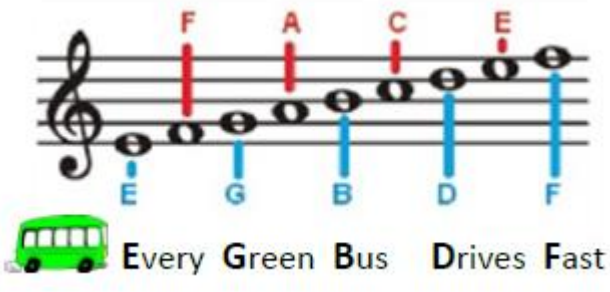


Section 3: Note values chart		
Note Symbol	Note Name	Note Value
	Minim	2 beats
	Semibreve	4 beats
	Crotchet	1 beat
	4 semiquavers	4 quarter beats (1 whole beat)
	Pair of quavers	2 half beats (one whole beat)
	Quaver	Half a beat

Melody rhythms - use the syllables to create the rhythms







Canon

A canon is like a round. The same piece of music is played, then a second layer is played slightly after. Each melody is played fully and musically fits with the other layers.

Ostinato

A repeated melody or pattern

Melody

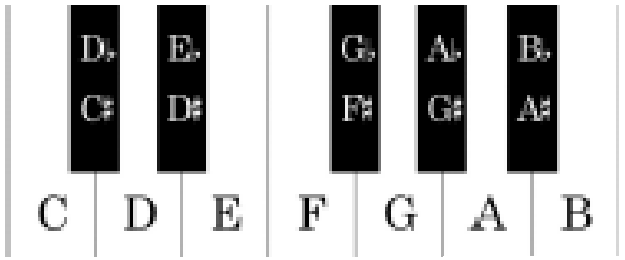
Another word for melody is 'tune'. A melody is a mixture of moving by step, and moving by leap. If the tune goes up in pitch, it is called '***ascending***'. If the tune goes down in pitch, it is called '***descending***'.

Drone

A drone is made up from 2 notes (usually low) being played and held underneath a melody to provide a bass.

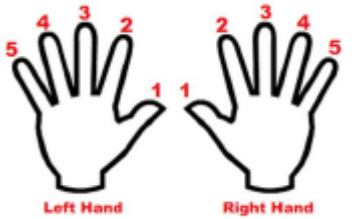
Black Keys

The black keys on the keyboards are half steps between the white keys. These half steps are called 'semitones'. Please note the pattern of black keys - there isn't on every key! The '#' symbol means 'sharp', and the 'b' symbol means 'flat'. A sharp raises the pitch by a semitone, a flat lowers the pitch by a semitone. Each black key has 2 names - a C# is the same key as a Db. There's just two different ways of looking at it.



Major and Minor

There are 2 types of chord: Major (sounds happy) and Minor (sounds sad). The difference is 1 semitone (see below). The middle note in a minor chord is a semitone lower E.g. C major = C E G / C minor = C Eb G



Year 8 Music

During this brilliant project, you will learn about the history, origin and development of the Blues. Why it had and still does have such an important role in the development of our humanity. You will explore the characteristic 12-bar Blues structure, a walking bass, melodic improvisation, a harmonic foundation upon which a melody can be constructed upon and as a foundation for improvisation and more…

- You will discover improvisation is used in Jazz and Blues Music
- You will investigate what makes an “effective” improvisation
- You will explore triad chords, the 12-bar blues, the blues scale, swing rhythms and seventh chords
- You will experiment with different textural layers in Jazz and Blues Music
- You will learn about different types of Jazz – Blues and Ragtime

Watch and Listen

Nina Simone is one of the all time great female blues artists, she was well known for her more up bear Ragtime Blues. Here she is with ‘I Wish I knew’. She is a wonderful singer and awesome pianist!

Robert Cray is a contemporary Blues artist. He has gives a more funky feel to the music but he still got The Blues!

Robert Cray is a joined here by Jimi Vaughn, British Blues Legend Eric Clapton and totally fantastic BB King. Four Kings of the Blues in one place!

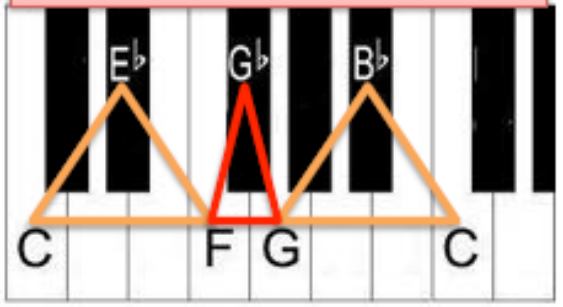
Here is a bonus, Blues from around the world

KEYWORDS	
Walking Bass	The bass part in the Blues 'walks' up the notes of a chord creating a 'walking bass' part
12 Bar Blues	Traditional blues style, using 3 chords over a 12-bar cycle.
Syncopation	When music is played on the **off-beat**
Improvisation	Music that is made up on the spot by a performer, often based on a given chord progression or set of notes
Swing Rhythm	When playing quavers, the first quaver is given a bit longer as it steals time from the second quaver to give the music a swinging feel.
Spiritual	Songs sung by slaves in the 19th century with themes of yearning for freedom, to be lifted out of suffering and the belief that a higher power will help a person persevere in tough times.

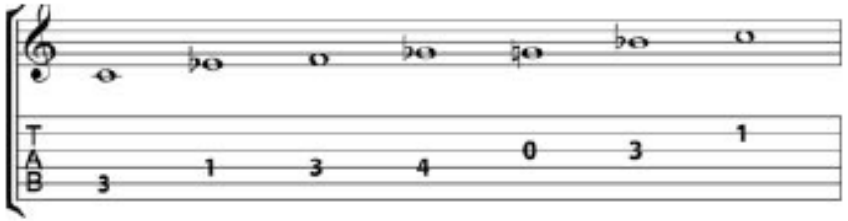
HISTORICAL CONTEXT

- In the **1600s &1700s**, millions of Africans were captured and sold as slaves. Many were taken to **North America.**
- It is widely accepted that Blues music evolved from the African **spirituals, chants, hymns, work songs and field hollers** that were sung on the plantations.
- Over the years, African musical features such as **Call & Response** singing, blended with **chords** was the beginning of the blues.
- Blues lyrics often deal with personal adversity. The blues is also about overcoming hard luck, saying what you feel, ridding yourself of frustration.
- The best blues music is visceral, cathartic and portrays genuine emotion.

BLUES SCALE IN C

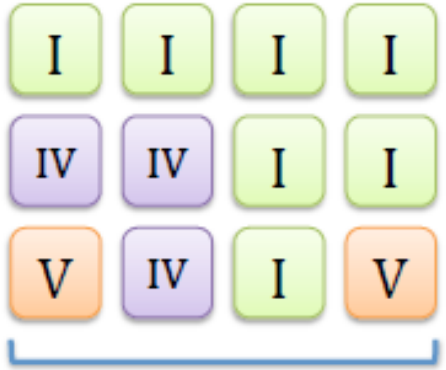


The melody of a Blues piece uses a special scale – The Blues scale is built using the **flattened 3rd, 5th and 7th notes.**



READING GUITAR TAB

- The thickest/lowest string = the bottom line
- The highest/thinnest string = the top line
- Number = represents the fret on the fret board that should be pressed.



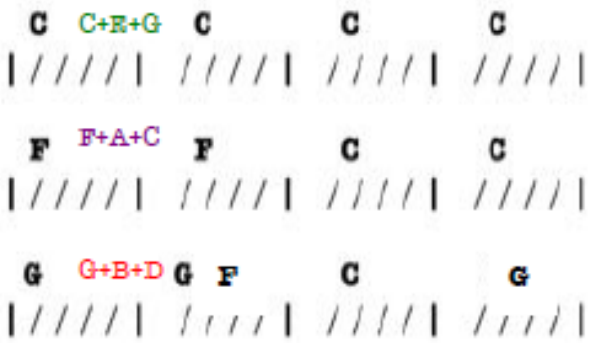
The Turnaround

Tonic Subdominant Dominant

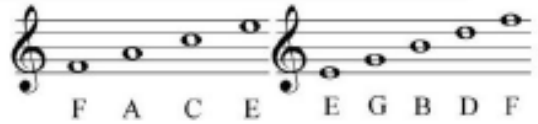
The 12-Bar Chord Structure

- There are lots of different types of blues, but the most popular song structure is the 12-bar blues.
- The 12-bar blues uses a set **chord pattern** that is **12 bars long.**
- The only chords are I, IV and V **(Primary Chords)**
- The 12-bar pattern is **repeated** throughout the song

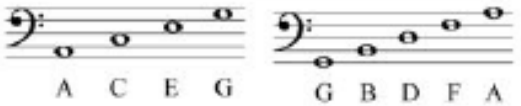
The 12 bar blues in C would be as follows:



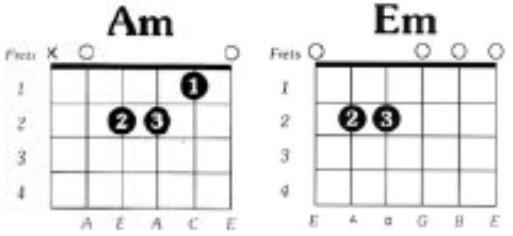
NOTES IN THE TREBLE CLEF



NOTES IN THE BASS CLEF



WADE IN THE WATER CHORDS



BLUES ARTISTS:

- BB King
- Bessie Smith
- Robert Johnson
- Muddy Waters

"The blues echoes right through into soul, R&B and hip hop. It's part of the make-up of modern music. You can't turn your back on the blues." *Ronnie Wood - Guitarist of The Rolling Stones*

Drama & Theatre Studies

Storytelling Part 2

An Accidental Death

Things that you will have the opportunity to learn

There is an opportunity to learn some very useful staging and acting techniques in this scheme of work. They are quite sophisticated. We will go over them a few times so that you learn to understand them and how to use them.

Split stage-(composite staging)

Split staging allows there to be two different scenes and settings on the stage at the same time. It is very useful device when building a story, bit by bit, from two different perspectives or when comparing and contrasting two different character's lives & situations

The stage is divided into different parts and each part represents a different setting (time & place). We use the idea quite a bit at GCSE.

You will use the idea of split staging when you prepare and perform your version of, '***An Accidental Death.'***

In the written example of the, ***Accidental Death'*** story, Mark wakes up in his lounge on Atlas Road, Coventry at 4.02 am. And Rachel wakes in her bedroom in Edgbaston, Birmingham at 7.05 am.

Split focus

This is never a good thing. It is where more than one important thing is going on, on-stage and the audience doesn't know what to look at and listen to- their focus is split.

In **part two** of the ***Storytelling*** scheme of work, we develop the ideas we learned in the, ***Story of my Morning,*** exercise. (the 4th wall, literary devices.). We base our learning around the duologue story, We use this story, **An Accidental death** as a template to write our own Accidental Death and so practise **cuing** (verbal & visual) and telling a story from two different perspectives.

Things you will need to know …

Duologue – a speech or a play for 2 actors

Cue - This is the word we use to mean when it is an actor's turn to speak or move. There are **visual cues** and **verbal cues**. Verbal cues are essential when actors cannot see each other
or are looking away from each other.

Split Staging – also called, Composite Staging. The stage is divided into two or more parts. Each area represents a different time AND place- a different setting.

Pace – The pace of a scene slows down if an actor leaves a pause before their cue. Pace increases if the actors come in quickly on cue. It is not to be confused with, tempo rhythm which is how quickly the actor speaks or moves.

Suspense – This is the feeling that an audience has when they are anxious and uncertain about what is going to happen in the play. The actors need to make the audience WANt to know wthe outcome. For this the actors need to make the audience care about the character and the story.

An Accidental Death (beginning)

Actor 1: Rachel opened one eye. Tried to focus. Gave up, groaned and closed it.

Actor 2: Mark woke with a start from his fall off the couch to the floor. He looked at the clock… "Nearly four," he murmured, flatly. He weighed things up…and decided…"May as well get up".. and he did. . .Slowly. . .In stages. He calculated his last sleep… 17 minutes. 17 minutes in that stint. He began to tot up all the little stints, but it was too hard. He stretched his neck, left then right, and shuffled to the kitchen…

Actor 1: Eyes still shut, Rachel felt for her phone. Her hand slid, like a snake from her bed to the little side table, carefully feeling its way past the lamp and glass and book, like a snake, in search of its prey. Her fingers opened and spread seamlessly around her phone. She squeezed it firmly in her palm then swung it, crane-like, to her face. She braved a look. The sudden burst of light made her wince. She worked hard to focus, the numbers emerging... 3..7.. 7.37. She noticed that her head hurt and then a tightening, followed by a leaden sadness in her solar plexus as, the empty wine bottle on the dresser, came into view.

Actor 2: Mark filled the kettle once more whilst gazing through the window. The greenhouse at the bottom of the garden emerged from the gloom with the first weak dawn light, its broken pane announcing itself to him, as it did from time to time. Mark had promised Hannah that he would get it mended four years ago, and thirty times at least, since. Hannah, rightly as it happens, worried about what the neighbours would think.

Four key processes and the Learning cycle

Devising

Planning and making.

Rehearse.

Going over things- a scene, a speech, an entrance so that everyone knows it off by heart. We rehearse a play to try out ideas, see if they work, learn and remember what we are doing until we are ready to perform it for an audience. We will begin to use different rehearsal techniques in Year 8. You will notice that we used the idea of, 'blocking' a scene in our earlier work on *'An Adventure..'*

Perform.

Sharing our work with an audience.

Evaluate

After a performance of our own work or a play we have watched, we reflect on what worked, what didn't work, were our ideas understood, did our intentions come across a thorough evaluation informs us and others how to improve the drama work next time in the next devising process. You will get to evaluate a class performance in this Scheme of Work.

The idea of the *4th wall* in theatre

The 4th wall in drama is an invisible wall that separates the actors from the audience.

What it means to keep, or observe, the 4th wall

In most performances the actors pretend that the audience is not there and instead they concentrate on picturing the scene that the character is in. This is called keeping the 4th wall.

What it means to break the 4th wall

Breaking the 4th wall is when an actor speaks directly to the audience and acknowledges that they are there.

Monologue

From mono, meaning one- a speech for one person.

Duologue

From duo, meaning two – a speech for two actors/ characters.

Cue

This is the word we use to mean when it is an actor's turn to speak or move. There are

visual cues – things we can see e.g. a gesture

and

verbal cues. **- A line, word or sound**

Verbal cues are essential when actors cannot see each other or are looking away from each other.

An Accidental Death – the finale

Actor 2: "It's alright," Mark urged, " I can carry it like it is. I'm just outside… I'm on a double yellow" he added eagerly, for extra effect. The apprentice begrudgingly passed the pane towards Mark's over extending hands and arms.

Actor 1: She stepped back into the aisle, entirely unaware of the dangers of this location and this orientation.

Actor 2: As he reached, the cumulative effects of 5 large espresso strength coffees and a rag bag, wretched sleep, caught up with Mark. He swooned slightly, tried to turn, caught his own ankle with his other foot and lurched forward trying to, at once, and ridiculously, gain his balance and, save the glass.

Actor 1: It was almost contrived, a ballet, the way that Rachel moved her head back, tilting her right ear to her shoulder for a final perspective on the cherry frame, and naturally offering the left side of her neck, and all those precious arteries, for all the world.

Actor 2: The bottom left corner of the glass slit cleanly through her aorta like a scythe. Whether Rachel felt it, or not, is unknowable. But, her expression was one of mild curiosity, as her blood sped from her neck. She teetered, her face, understandably, paling against the crimson of her lipstick and the swelling pool on the tiles.

Actor 1: She crumpled at the knees like a sack of potatoes.

Actor 2: "Like the Twin Towers", the assistant would later say in his report.

Actor 1: But that is how, Sarah Rachel Louise Mc Lennon, came to lose her life that day.

The Mystery Pictures

using drama techniques & skills to investigate a character's life and thinking

• Study Focus

In this scheme of work we draw on a number of theatre, practical and academic skills that you have learned thus far and use them to explore and investigate the meaning of two mysterious pictures. You will develop, and work in, specialist roles as a team of psychologists, social workers, psychiatrists, child therapists and education welfare officers. Sometimes you will work with the teacher – in – role as the director of one of the major teaching hospitals. In one of these roles , you will work as a whole class and in small 'break out' groups to explore and discuss various interpretations of the Mystery Pictures and how they might offer insights into the plight of Jenny. You will develop and practise your presentation skills as you offer your group's theories about the case evidence that you have that supports your theories. Later, you will explore the story from Jenny's point of view, learning and practising new non-naturalistic theatre genres to stage your ideas symbolically and expressionistically. We will reference and draw comparisons with the work on expressionism that you do in your art classes. You will apply several skills and theories in a group physical theatre piece devised in the expressionist genre.

The story- How it came to be.

Jenny is a seven year old girl from North west London. One day she was found by her mother in her room. The room had been turned upside down Jenny was sat silently in the corner of the room saying nothing. Eventually, her mother called a doctor. When the doctor arrived she could not get any response from Jenny and so arranged to send her to a specialist children's unit at the hospital where she will be attended to by various specialists. As Jenny was saying nothing at all, one specialist arranged for some paper and pencils to be placed in her room. Later, two separate drawings were found in the room. These two drawings- the Mystery Pictures- were the starting point of the team's investigation into what may have happened to Jenny, how her room came to be wrecked and what might be the reasons for her refusing to speak to anyone

Things that you will practise and learn.

- You will learn to study two pictures in depth and detail.
- You will learn how to analyse drawings for possible meanings.
- You will practise making a presentation to the class, offering your interpretations of the meaning and your evidence from the pictures.
- You will learn to develop a specialist role, researching appropriate specialist phrases and vocabulary .
- You will apply your understanding of; gesture, posture and body language to develop a physical characterisation of a specialist role , e.g. a psychologist.
- You will explore a small number of non- naturalistic theatre techniques so that you can develop an expressionist physical theatre piece which communicates your ideas of a dream and nightmare.

Jenny's mother's account

I put Jenny to bed around seven thirty as she seemed tired. I read her a little bit of her story as usual. It didn't take long for her to nod off, so I crept out, turned off the light and went downstairs to do some work. It was warm, so I set up the easel in the summer house and put on my headphones so that my music did not disturb the neighbours. I worked quite late I think, as I was making really good progress with the illustrations. It was cool when I went back inside. I put the cup of chamomile tea in the microwave and took it to bed.

I woke early and did some household chores before starting breakfast. I called Jenny and there was no answer, which was not unusual. With breakfast on the table, I called Jenny again as I had heard no movement from her, "Jenny, darling, time to get up – your breakfast is getting cold". I sat back down and sipped my coffee whilst listening for her movement.

I looked at the clock and a little irritated went to the stairs and shouted up to Jenny, "Jenny ! Darling! You need to get up- you're going to be late for school. Your breakfast is cold." Hearing no response, I started up the stairs, I felt some butterflies in my stomach and I quickened my pace across the landing. I took a breath before I entered Jenny's room. Nothing prepared me for what met me – her room was turned upside down; clothes, books, toys everywhere. The mattress pulled from the bed, sheets across the room , curtains off the rail and Jenny there, in the corner, all curled up tight. I shouted at her angrily, "Jenny ! What on earth have you done! Get up this instance!.. Jenny !!" And then my anger drained and I was filled with worry. I knelt and flung my arms around her pulling her into me, "Jenny, sweetheart, what's happened?" but she still wouldn't speak and her little body was as stiff and tense as a board- she just kept staring, wide eyed, not blinking. I picked her up and went downstairs. I phoned the doctor.

Eight ways to create **non-naturalistic** drama

Slow motion- Moving in slow motion is a classic way of making your work less naturalistic and more entertaining. Acting key scenes or moments in slow motion will highlight these moments for you and make them more significant. You can also speak in slow motion which sounds very strange when performed live. It requires a lot of confidence and vocal skill- it is very effective though in creating a spooky and eerie atmosphere in a nightmare scene. It is a favourite technique in expressionist theatre and cinema. Action can also be sped up into **double** and even **triple time**. This can add a comic effect as well as a disturbing one

Chorus work – in drama this means everyone doing or saying (or both) the same thing in the same way at the same time. It requires a lot of technical skill and a lot of rehearsal to get it right. As this is not something that we do naturally in everyday life, it is classed as a non-naturalistic technique. It can be very powerful. Ancient Greek Theatre used this technique and many modern productions are keen to employ it often to great effect, particularly when coupled with similarly dramatic lighting and sound.

Repetition/ reordering/ backwards – repeating a scene, or parts of a scene, is another way of drawing attention to a specific speech , event or moment. A scene can also be repeated from another, or different character's, perspective. Political theatre often uses this device so that the audience can assess the rights and wrongs of a situation. Reordering scenes has a very strange effect and creates an odd, surreal dreamlike feeling. Playing a moment backwards requires great technical skill but it can have a huge effect on the impact of a scene

Narration/ 3rd person – two techniques that you met in our last work on storytelling. You can use them here to create 'distance' in your work and a strange dream like effect, especially when combined with some of the other techniques outlined here. It is a technique used frequently in GCSE productions and many contemporary professional productions.

Tableaux – Using your bodies to make **still images** representing objects or themes and narrating is a very useful and powerful non-naturalistic technique

Lighting & sound (**LX** and **SFX**) – pre- recorded sound and lighting are straightforward ways of making your scenes more symbolic, surreal and expressionist. In physical theatre productions, the actors can make the sound effects live on stage. In the musical, Blood Brothers, the orchestra in the pit supply many of the play's required sound effects. You can use all sorts of sound effects to add tension and suspense to your scenes. Side lighting creates long shadows which add a disturbing and nightmarish quality. Coloured gels over the lanterns in the studio can enhance many stage atmospheres and can symbolise and suggest environments such as, Heaven.

Breaking the 4th wall – another technique that you met in our Storytelling work. Speaking directly to the audience- sometimes called, **direct audience address**. It can be very powerful – provocative even.

Split staging/ composite staging – dividing a stage into different sections representing different times and places is a useful way of making meaning.

Questioning Technique – Different ways of asking questions
A few useful things to know - particularly for the interviews you conduct in this scheme.

Two types of questions are, **'Open' Questions** & **'Closed' Questions**

Questions
Questions
Questions

Question words are called interrogatives

There are six main **interrogatives** in the English language:

Questions that require a 'yes' or 'no' response are called **closed questions**. Questions that it are not possible to answer with a 'yes' or 'no' are called **'open questions'**

It is very hard to answer an interrogative with a 'yes' or 'no'

6
English interrogatives
Who
What
Why
When
Where
&
How
?

Closed questions are excellent for establishing facts and getting straight answers- you can imagine why politicians are not so fond of them! **Open questions**, on the other hand, are useful for exploring ideas,& getting people to open up. Open questions make use of the interrogatives.; who, what, why etc.

The prefix, ***physio,*** means- to do with the body. The prefix, ***psycho,*** means - to do with the mind. So, a physiotherapist looks after our bodies an and a psychotherapist looks after our min and our mental health

Specialist roles you may play in this scheme:

Psychology is the study of people: how they think, how they act, react and interact. It is concerned with our behaviour, thoughts, feelings and the motivation underlying our behaviour.

Psychiatrists are medical doctors who have qualified in psychiatry.

Social workers provide advice, support and resources to individuals and groups to help them solve their problems. They specialise in working with certain groups, children, for example.

Understanding

Badminton

Problem Solving

Resilience

Rules:

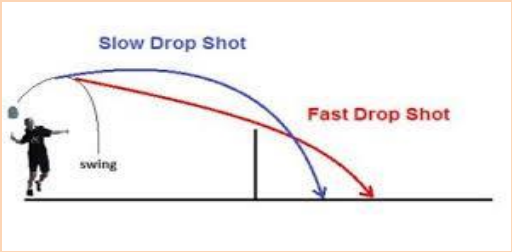
- A match consists of the best of three games of 21 points.
- The player winning a rally adds a point to its score.
- The player pair winning a game serves first in the next game.
- A point is scored when the shuttlecock lands inside the opponent's court or if a returned shuttlecock hits the net or lands outside of the court the player will lose the point.
- At the start of the rally, the server and receiver stand in diagonally opposite service courts.
- A legal serve must be hit diagonally over the net and across the court.
- A badminton serve must be hit underarm and below the server's waist height with the racquet shaft pointing downwards, the shuttlecock is not allowed to bounce.
- After a point is won, the players will move to the opposite serving stations for the next point.
- A player is not able to touch the net with any part of their body or racket.

Stretch and Challenge Task:

- How easily can you place the shuttle to the space on your opponents side?
- Can you use your serve to your advantage?
- What movements help you to cover the court?
- Where should you be placing the shuttle in relation to your opponent?

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.



Skills & Techniques:

Forehand Grip:

- Shake hands with the racket
- V of hand down the side of the racket

Backhand Grip:

- Thumb on the flat side of the grip

Ready Position:

- Side on
- Racket up
- Non-racket up too for balance
- On your toes - ready to move

Overhead clear

- Focus on contact point with shuttle above your head
- Aim towards flight of shuttle with non-racket hand.
- Snap wrist on contact,
- High arc of shuttle
- Sideways on
- Weight Transfer – from back through to front – racket foot follows through forwards – helps to gain more power

Drop Shot

- Deception – looks like a clear but drops over the net
- Focus on contact point with shuttle in front of you – guiding the shuttle downwards
- Low over net
- Fast Drop Shot: Travels down steeply. But lands further away from the net.
- Slow Drop Shot: Does not travel down steeply. But lands nearer to the net.

Understanding

Dance/Gymnastics

Problem Solving

Resilience

Performance

Physical skills and attributes, including:
Posture, alignment, balance, coordination, control, flexibility, mobility, strength, stamina, extension and isolation

Technical skills, including:
- Action content
- Dynamic content
- Spatial content
- Relationship content
- timing content
- rhythmic content

Expressive skills:
Projection, focus, spatial awareness, facial expression, musicality and phrasing

Mental skills:
Movement memory, commitment, concentration and confidence

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- Perseveres and doesn't give up, demonstrates resilience when practicing and applying skills to different situations/ game scenarios.

Skills of choreography:

Action content, including:
Travel, turn, elevation, gesture, stillness, use of different body parts, floor work and transfer of weight.
Dynamic content, including:
Fast/slow, sudden/sustained, acceleration/deceleration, strong/light, direct/indirect and flowing/abrupt.
Spatial content, including:
Pathways, levels, directions, size of movement, patterns and spatial design.
Relationship content, including:
Lead and follow, mirroring, action and reaction, accumulation, complement and contrast, counterpoint, contact and formations.
Choreographic processes, including:
Researching, improvising, generating, selecting, developing, structuring and refining and synthesising.
Structuring devices and form, including:
Narrative, beginning/middle/end, unity, logical sequence and transitions.
Choreographic devices, including:
Motif and development, repetition, contrast, highlights, climax, manipulations of number and unison and canon.

Understanding

Football

Problem Solving

What muscles do we need to Warm-up in Football and how would you do this?

1. Pulse Raiser
2. Dynamic stretches
3. Skill practice/ Drills

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.

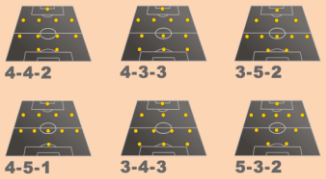
Game understanding:

1. What are the advantages of using man to man marking when defending?
2. Research the different types of formations (pictured) and positions.
3. Why is it important to use width in a game.

Resilience

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 co-curricular opportunities at lunch and after school.

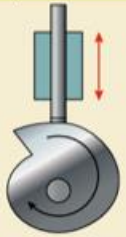


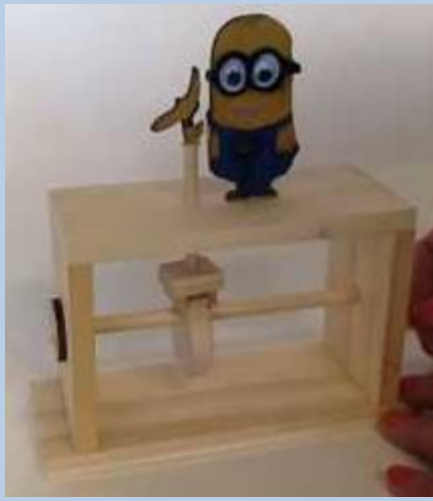
Controlling the ball: Using different parts of the body – this could be the feet or thigh. Remember to cushion the ball.
Passing: There are 3 types of passes. Side foot pass, driven pass with the laces and a lofted pass. Using the side of the foot allows you to pass accurately over a short distance, a driven pass allows you to pass the ball on the floor, but a greater distance. Finally, a lofted pass allows you to lift the ball in the air over players. Remember to keep your standing foot next to the ball when you make the pass.
Dribbling: Dribbling allows you to move the ball quickly around the pitch using the inside and outside of your feet and keeping the ball close to your feet and your head up.
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 and opponent allows you to beat a defender using different techniques such as a step over.
Shooting: there are different types of shots that allows 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.
Attacking – keeping possession: making a number of passes allows your team to keep possession and advance up the field.
Tackling: Techniques – tackling, jockeying and forcing the player onto their weaker foot.

Design and Technology

Linear Motion Motion in a straight line indefinitely.		**Reciprocal Motion** Back and forth motion.	
Rotation Motion Motion in a circle.		**Oscillating Motion** Oscillation is a back and forth motion about a pivot point	

Cams

	Pear-shaped	Eccentric/circular	Drop (Snail)
Effect of shape	• Motionless (dwells) for about half the cycle • During the second half it rises and falls	• Circular to give a smooth continuous movement as the follower rises or falls	• Gives a slow rise with a spiral cross-section and then a sudden fall
Example	• Opens and closes valves in a car engine	• In a fuel pump or in steam engines	• Used in hammers/ punches or machines needing a sudden drop
Cams			

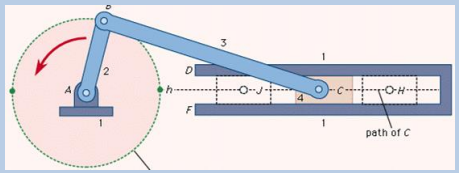


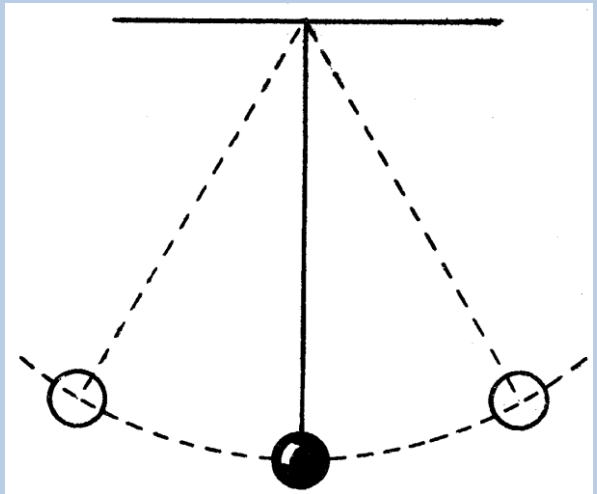
4 Types of movement
Rotary – Motion around a central point Example: a fan or a bike wheel

Oscillating - Motion that swings backwards and forwards in an arc from a central point Example: child on a swing or a pendulum

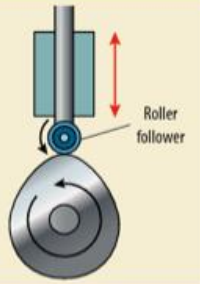
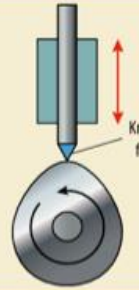
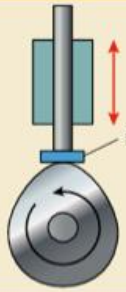
Linear - Moving in a straight line in one direction Example: train travelling along a track or a conveyor belt

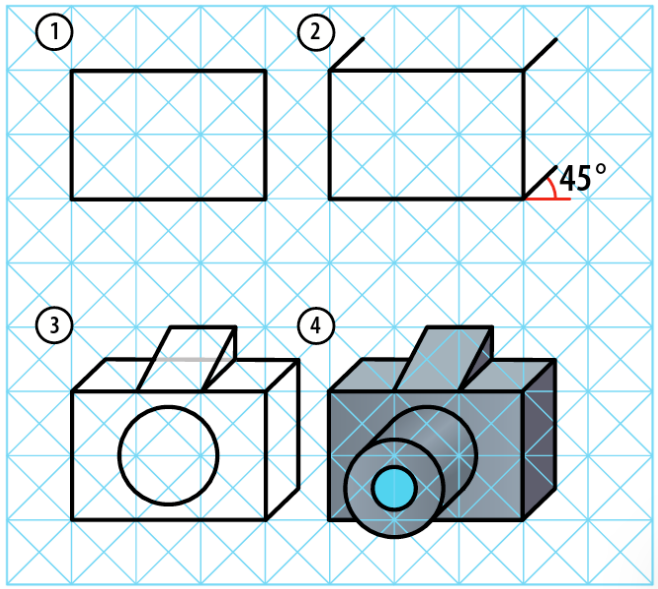
Reciprocating - Moving backwards and forwards in a straight line Example: sewing machine needle or car piston





Follower

Roller	Knife edge	Flat
		
• Used when higher speeds are required, such as in engines • Rolling motion reduces friction so it will wear better • Has separate parts in the roller mechanism and contends with forces pushing them to the side	• Used when accuracy is required, such as in an embroidery machine, as the cam's profile is followed closely • Suffers from a rapid rate of wear and contends with forces pushing them to the side	• Used when higher load bearing capabilities are required, such as in a steam engine • Has reduced forces pushing it, but suffers from increased friction • The larger surface area means it could rotate, but has larger load carrying abilities

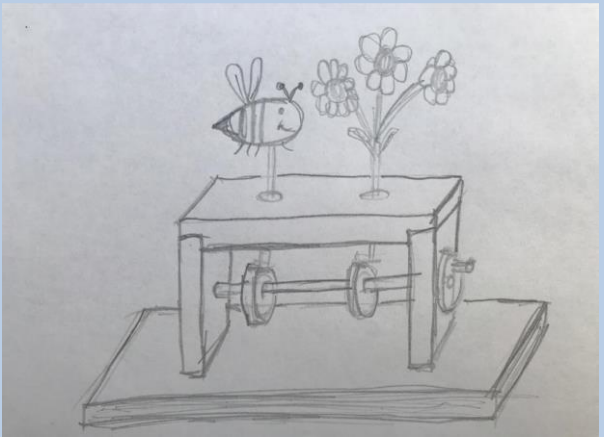


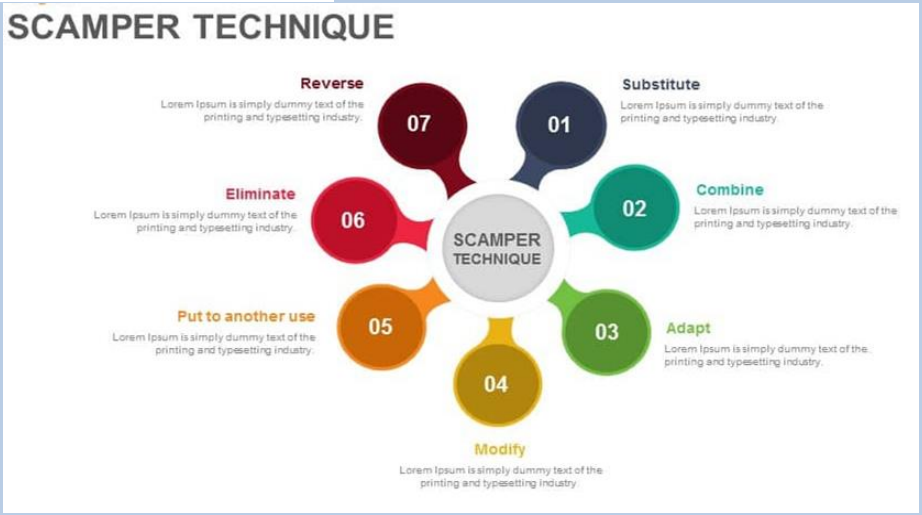
Oblique

Oblique projection is the simplest method of creating 3D designs based on 45-degree lines. For support, use oblique grid paper to guide your angles:

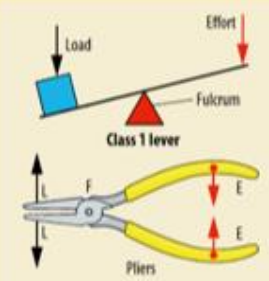
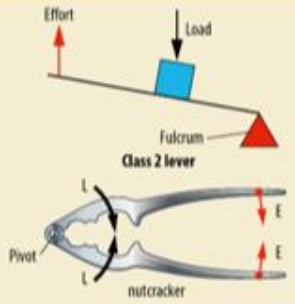
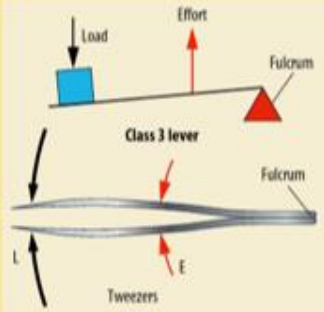
1. Draw the front view in 2D.
2. From each corner, draw construction lines projecting out at 45 degrees.
3. On the construction lines, measure half the true length.
4. Draw the back of the product to complete the product.

Specification Point to Include	Questions to Answer
Form	Why is the product shaped or styled as it is? What shape / style should it be?
Function	What does it do?
Client and user	How does it meet the needs? How is the product designed for the user?
Performance	How does it work? How does it do the job it was designed to do? How will it work? What other factors / issues does it need to take into consideration?
Materials and Components	What materials should it be made from? What properties / characteristics should the materials / components have? What materials/components / parts have they used and why
Scale of Production and Cost	What scale of production has been used? How does this affect the overall cost?
Sustainability	How has sustainability been taken into consideration?
Aesthetics	How is it made to be aesthetically pleasing?
Marketability	What makes this product different from anything else on the market?
Consideration of Innovation	What elements of the product are innovative or move the product forward compared to other versions available on the market?



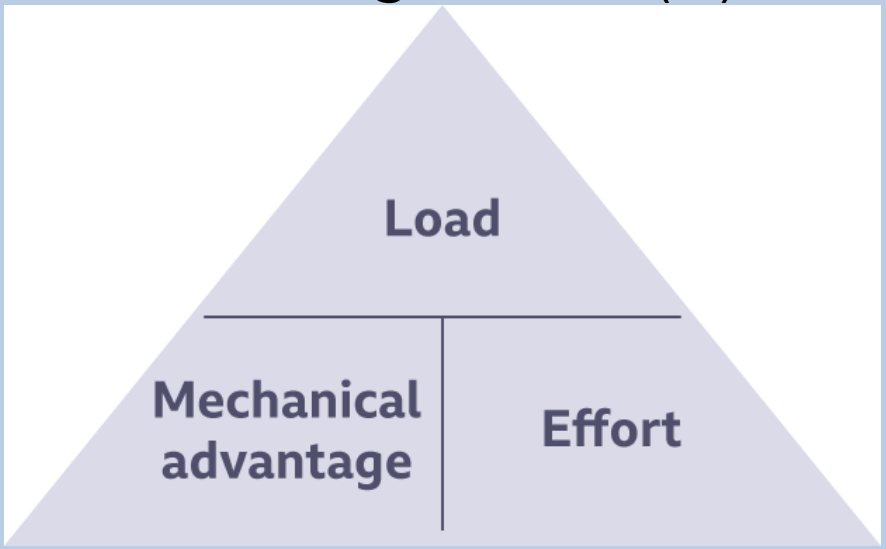


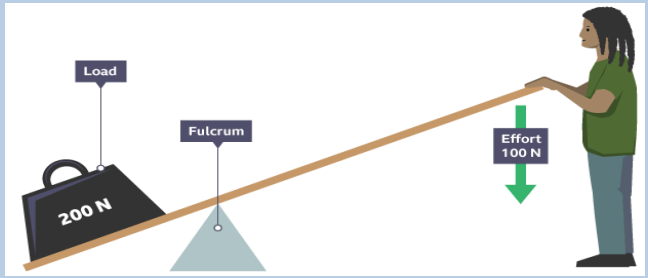
- **Jigs** - used to guide a drill or saw to cut in exactly the same place each time on every piece of timber - reduces marking out time thus increasing the efficiency of the manufacturing process
- **Fixtures** - holds the piece of timber in place whilst it is being worked on
- **Templates** - made out of paper, card, thin metal or wood, these are drawn around to mark out the same shape repetitively, with the aim of speeding up the marking-out process and decreasing the chance of an error occurring
- **Patterns** - a collection of templates that go together to make a part, or all, of a product

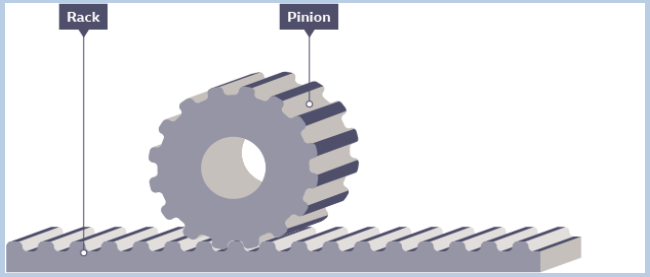
	Class 1	Class 2	Class 3
Reason for mechanical advantage	A large input movement can produce a small output movement but with greater force	A large input movement can produce a smaller output movement with greater force, but the fulcrum is at one end	Limited; the force applied by the user is greater than the output force
Example	Pliers or crowbar	Wheelbarrow or nutcracker	Tweezers or spade
			

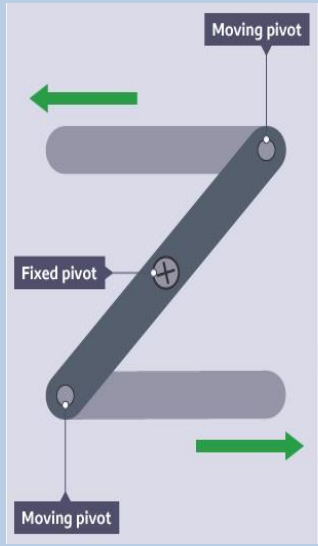
1	2	3
F	L	E

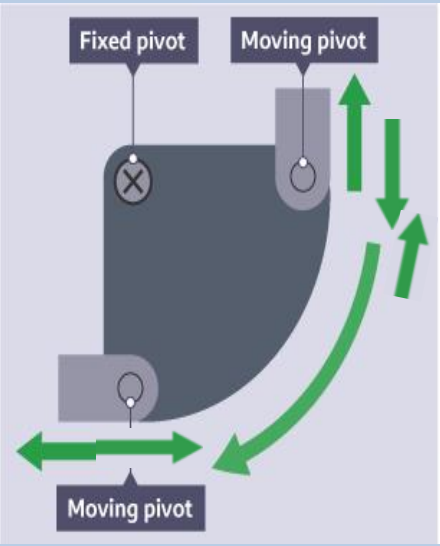
mechanical advantage = load (N) ÷ effort (N)

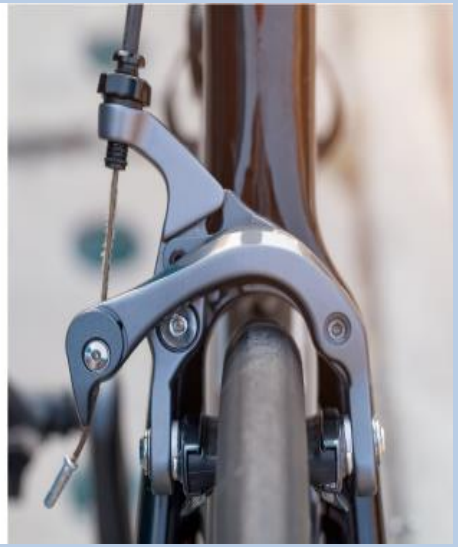












YR8 Textiles Knowledge Organiser

Textiles are highly adaptable and can be constructed to maximise different properties including a very high strength and weight ratio, which means less materials can eb used to make strong and robust products.
Textiles are available in many different forms including rolls, yarns, and fibres. Some textiles can be very cheaply produced and some are extremely expensive, especially when using rare fibres and labour intensive techniques.

The categories of textile are:

- Natural Fibres
- Synthetic Fibres

- Woven Textiles
- Non-woven Textiles
- Knitted Textiles

Natural Fabrics		
Plant-based natural fibres	**Characteristics**	**Uses**
Cotton 	Soft and strong, absorbent, cool to wear and easily washable. Cotton fabrics can be given a brushed finish to increase their properties.	Most clothing, especially shirts, underwear and denim can be made from cotton. Also used for towels and bedsheets.
Animal-based natural fibres	**Characteristics**	**Uses**
Wool 	From fine and soft to thick and coarse, it is warm and naturally crease resistant. Can shrink. Often blended to add functionality.	Jumpers, coats, suits and accessories worn for warmth. Specialist wools are very soft and expensive. Felt products and carpets.
Silk 	Very soft and fine finish, gentle on skin, can feel cool in summer yet warm in winter, drapes well, absorbent, strong when dry (weaker when wet), tricky to wash, can crease easily and is usually expensive.	Luxury clothing including nightwear and underwear, soft furnishings, bed sheets, silk paintings and wall hangings.

Synthetic Fibres		
	Characteristics	**Uses**
Polyester 	Tough, strong, hard wearing, very versatile, holds colour well, non-absorbent so quick drying, machine washes well. Often blended with other fibres. Easily coloured.	Clothing, fleece garments, bedsheets, carpets, wadding, rope, threads, backpacks, umbrellas and sportswear.
Polyamide (Nylon) 	Good strength, hard wearing, non- absorbent, machine washes well, easily and frequently blended.	Clothing, ropes and webbings, parachutes and sports material. Used as a tough thread on garments.
Elastane (LYCRA)	Added to fabric to enhance working properties, particularly to add stretch. Allows freedom of movement, quick drying, holds colour well, machine washable.	Sportswear, exercise clothing, swimsuits, hosiery, general clothing, surgical and muscular supports.

Blended and Mixed Fibres		
Poly- Cotton	More durable than pure cotton but not as breathable. Can be produced more cheaply than cotton alone. Many blends are available; 65% cotton 35% polyester to 50/50 are common.	General clothing, sheets and bedding. Can be used as an alternative to most cotton products.

Where In The World Does Cotton Grow?

Cotton is a plant. It grows in warm climates – especially……..

WESTERN ASIA –
Turkey
Uzbekistan

USA especially –
Texas
Arizona
New Mexico
Georgia
Alabama
California

CHINA

BRAZIL

AFRICA especially –
Mali
Benin
Burkina Faso
Uganda

SOUTHERN ASIA –
India
Pakistan

The Cotton Plant - *Gossypium hirsutum*

The ripening Cotton Boll.

A Cotton flower.

The Cotton Boll ready to harvest.

Cotton is grown in large fields.

Cotton is the most recognised and widely used natural fibre used in the world today.

Cotton, used in its pure form or blended with other fibres, makes much of the world's clothing and textile products.

The cotton is harvested either by machine or by hand.

The cotton bolls are collected and taken to a factory.

This machine – a Cotton Gin - separates the seeds from the cotton fibres.

The cleaned fibres are spun into a yarn.

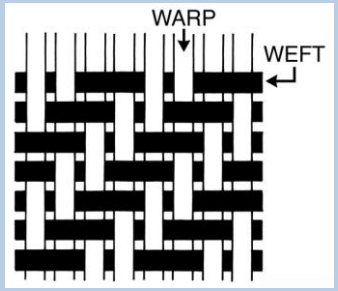
These yarns are woven or knitted into material.

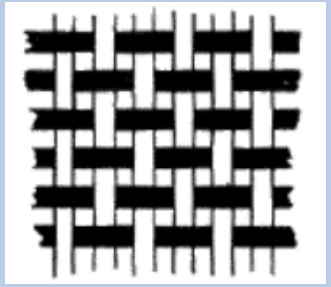
Woven Textiles

Weaving is the most common way to produce cloth from yarn. The cloth is made up of two sets of yarns which are threaded at 90 ° to each other. The warp threads are fixed in the loom and run the length of the fabric. The weft threads run across the width of the fabric from selvedge to selvedge.

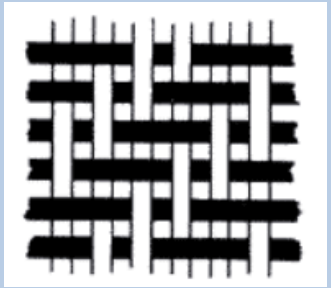
There are many different types of weave, the most common of which is plain weave.

Plain weave is a very simple but tight weave. The weft yarn goes alternatively under and over the warp yarns. It is the most basic pattern and hence tends to be the cheapest to produce. The finished fabric is identical on both sides.





Plain Weave



Twill Weave

Non-Woven Textiles

Non-Woven fabrics are made directly from fibres without being spun into yarns. The most commonly available non-woven fabrics are bonded fabrics made from a web of fibres held together with heat or adhesive. Common uses of non-woven fabrics include disposable products such as garments worn by surgeons and crime scene investigators, dishcloths and interfacings. Non-woven fabrics can be given special treatments such as flame resistance to make head rest covers on trains and aircrafts.

Felting

This is a mechanical process which has traditionally been done by hand, but is now mainly machine produced. It involves matting together wool or synthetic fibres using a combination of heat, pressure, moisture and movement to mesh fibres together in a random way. Felt can be formed into shapes when wet, but it does not have any elasticity and will drape well when dry. It is snot strong and can pull apart under tension, but will not fray like woven fabrics.

	Characteristics	Uses
Knitted fabric	Warm to wear, different knits have different properties such as stretch and shape retention. Weft knits ladder and unravel more easily than warp.	Jumpers, cardigans, sportswear and underwear fabrics, socks, tights and leggings craft items such as soft toys.

Knitted Textiles

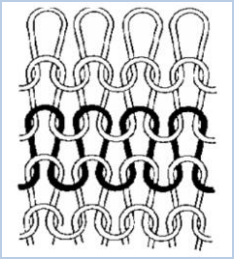
Knitting is a traditional technique of interlocking yarn loops together to produce a fabric and has been used well over 2000 years. There are two types of knitted fabric called weft knit and warp knit. With all knitted fabric, if a yarn breaks then it can come apart or ladder. Knitting can be done by hand or machine.

Weft Knitting

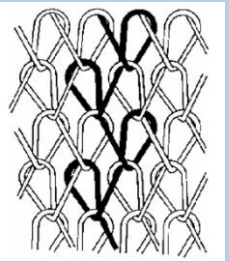
Weft knit fabrics are made by hand or by machine using a single yarn that forms interlocking loops across the width of the fabric. They tend to be quite stretchy due to the method of interlocking and therefore can lose their shape quite easily.

Warp Knitting

The loops in warp knit fabrics interlock vertically and are less prone to unravelling and laddering, which makes them easier to cut into sections and sew together for the construction of complex garments. They are less stretchy than weft knits and tend to hold their shape more effectively.



Weft Knit



Warp Knit

	Characteristics	Uses
Bonded fabric	Fabrics lack strength, they have no grain so can be cut in any direction and do not fray.	Disposable products such as protective clothing worn for hygiene purposes, tea bags, dish cloths and dusters.
Felted fabric	Can be formed with moisture and heat; once dry it has no elasticity or drape, and can pull apart easily. Wool varieties can be expensive.	Hats, handicraft, pads under furniture to prevent scratching, soundproofing and insulation.

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 doingit:

Systems approach: This meansbreaking down the process into a numberof different strategies and doing each in turn.

User-Centred design: The wants and needs of theclientareprioritised-theirthoughtsare given a lot of attention at every stage of design andmanufacture

Iterativedesign:Centredaroundthedesign process of evaluationand improvementat each stage ofdesigning.

When you are designinga productit 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.

Followingthe design strategy can helpyou avoid design fixation and encourage you to look at your design in a critical way to make improvements.Otherways to avoid are-

- Collaboration
- Honestfeedback
- Focusingon new solutions
- Using freshapproaches

Key Words

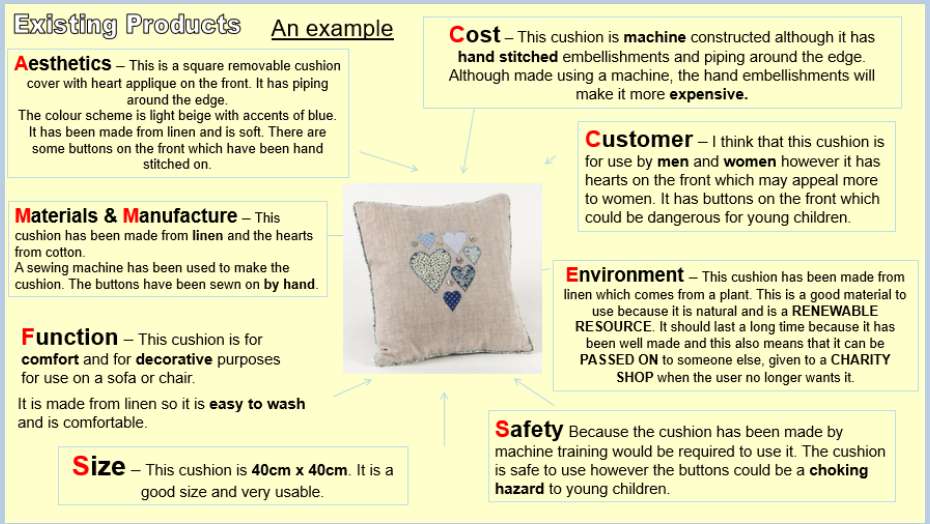
PRODUCT ANALYSIS: investigating the design of existing products.

FUNCTION: the task that the product is designed to do.

AESTHETICS: relating to the beauty of a product; how something looks.

Product Analysis: involves investigating **existing products**. It's not just about describing them, it's about understanding why they are designed in the way they are too! If you can identify the good features of the product you may be able to use these in your own design.

Aesthetics	Describe - Appearance? Use of Colour? Lettering? Images? Style? Decoration method?
Cost	Is the product value for money? Do you think it was expensive or cheap to make? How much would it sell for?
Customer	Who's the customer? Who is it aimed at and why? How well does it suit the customer. What makes it suitable for them?
Environment	Is the product environmentally friendly? Is it recyclable? Can it be re-used? Does it use organic cotton? Will it last a long time?
Safety	Is the product safe to use? Are there any sharp edges or loose parts? What regulations has it passed? What does the care/flammability label say?
Size	What size is it? What shape is it? Are the measurements equal?
Function	What is the product's job? What has it been designed to do? How well does the product do its job?
Materials	Is it made from suitable materials? What is the fabric content? What are the wash/ care instructions



ACCESS FM: is a way of remembering what you should investigate when analysing a product. Each letter stands for a different thing you should analyse.

A **SPECIFICATION** can come from analysing existing products. ACCESS FM can be used to check that you have covered all the different types of need in your specification.

Tie - Dye

A resist technique. The process of **tie-dye** typically consists of folding, twisting, pleating, or crumpling fabric or a garment and binding with string or rubber bands, followed by application of **dye/s.**

Natural Fabrics are best for tie-dye.
Pre washed **cotton** is more absorbent. New cotton fabric has a waxy finish applied to stop it creasing too much.

Chemical Fabric Dyes

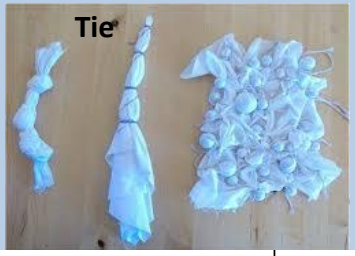

Elastic bands


Dye Bath/Vat


Apron

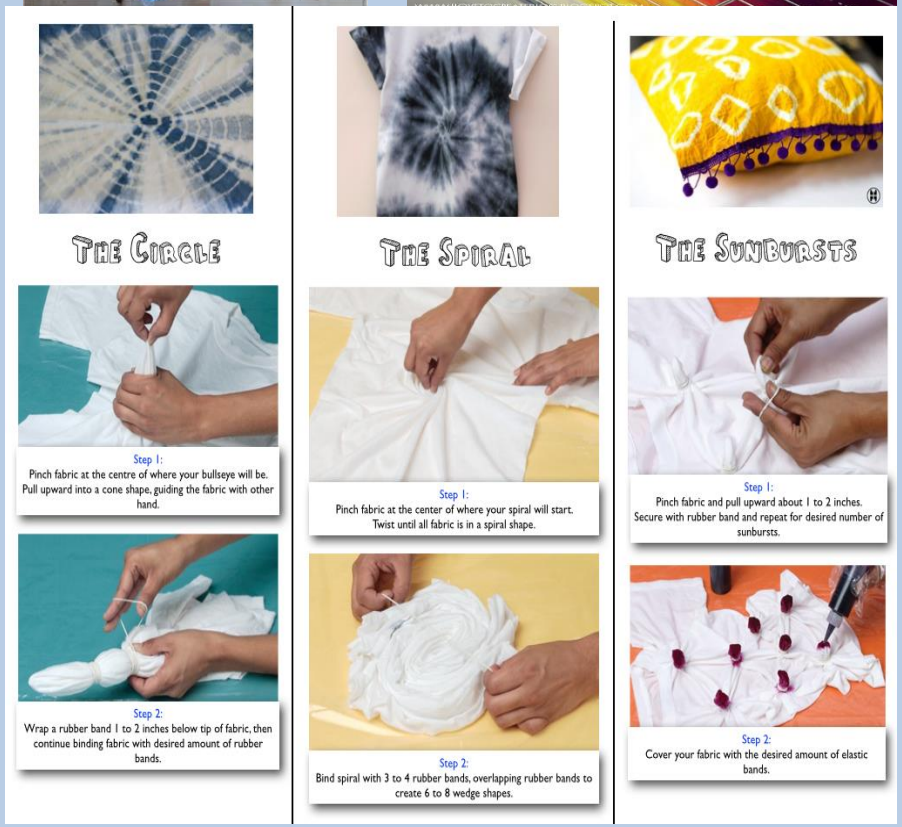

Goggles


Gloves



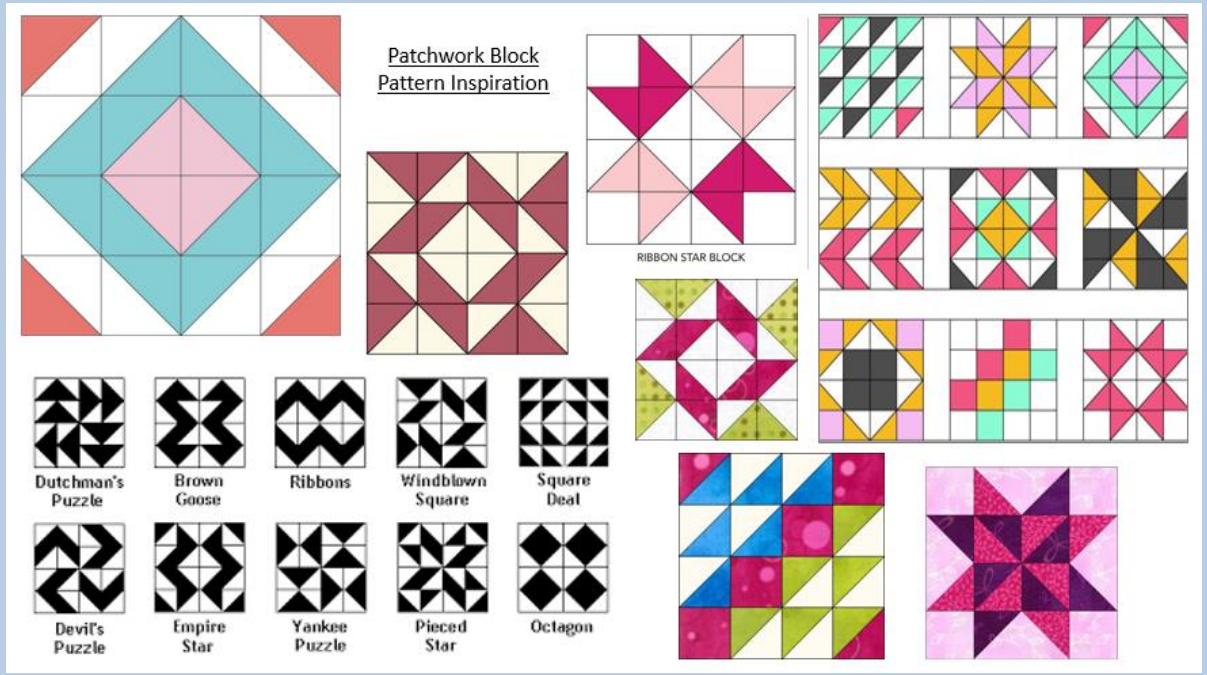
You must always follow the health and safety rules when using dyes.
An apron, goggles and gloves should be worn when working with dyes. In industry overalls would be worn as well. All equipment should be used correctly.

TIE-DYE PATTERNS AND TECHNIQUES



Patchwork

PATCHWORK is a form of needlework or craft that involves sewing together small pieces of fabric and stitching them together into a larger design.
Patchwork is traditionally 'pieced' by hand, but modern quilt makers often use a sewing machine instead. The size of the finished piece is determined by the maker



The tradition of the patchwork we know today was taken to America by the Pilgrims.

They took at least one piece of "bed furniture" i.e. blankets, with them. Times were hard, they had no money so, as things wore out, so they would be repaired and reused.

Patchwork is a great way to consider the **6 Rs** and **RECYCLE** materials and fabrics – a good form of **SUSTAINABILITY**.

Construction Key Words

RIGHT SIDE = the side of the **fabric** is the side that is meant to be seen. It usually looks nicer.

PRESS = Iron the fabric/seam. This must be done after every stitched seam.

CROSS PIN = placing pins in fabric horizontally to keep the two pieces together temporarily whilst stitching.

'10 LINE' = the 1cm distance from the machine needle to the line on the throat plate.

SEAM ALLOWANCE = the area between the fabric edge and the stitching line on two pieces of material being sewn together.

QC CHECKS = checking for quality and accuracy of your stitching and construction

Use tailors chalk to mark around your templates onto the fabric. Cut them out using fabric scissors.

Lay out your fabric pieces do that they follow your design.

Flip 'right side' of fabric pieces together and 'cross pin' in place along the edge you are going to stitch. Machine straight stitch "10" line. Remember to use the reverse stitch at the beginning and the end.

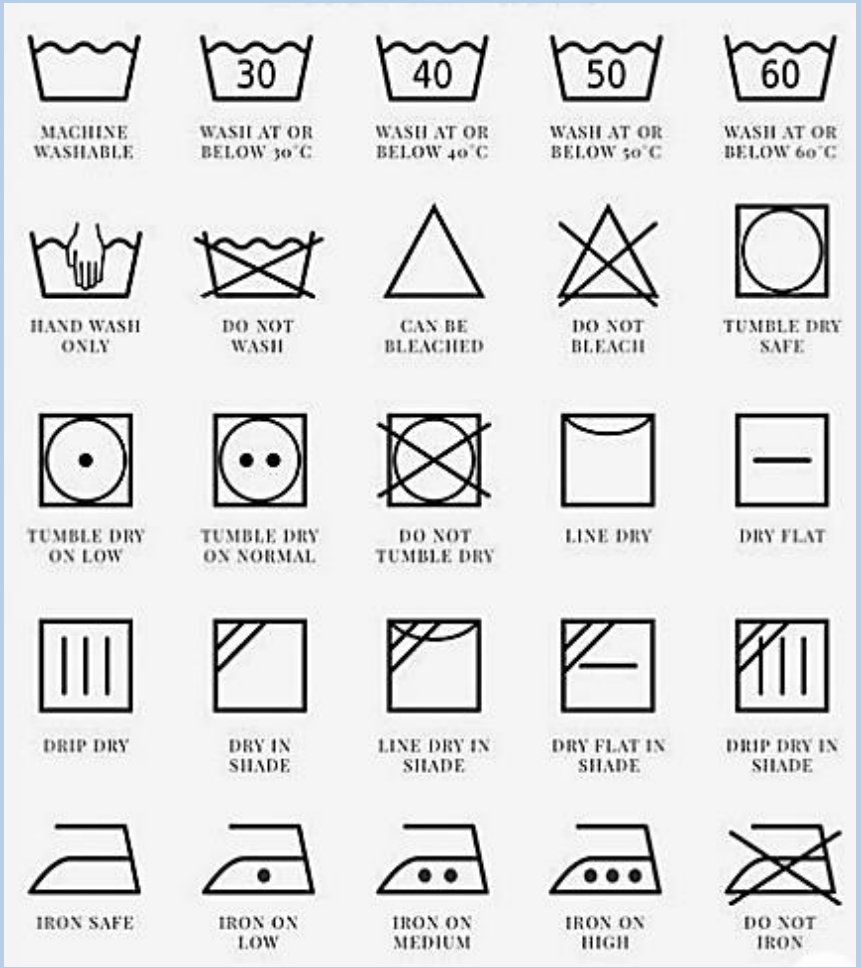
Iron the patchwork on the reverse. Do this every time you stitch a seam.

CARE INSTRUCTION LABELS

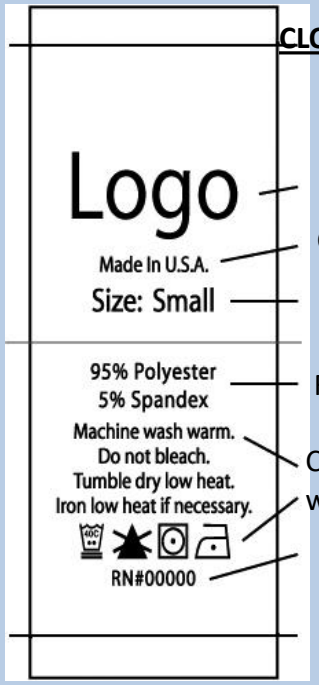
The world of care labels can be confusing. There are many **symbols**, all with slightly different meanings.

Reasons to have care labels:

- To make sure that the garments we buy stay in the condition we buy them and do not shrink or stretch.
- Symbols provide the same information to everyone without language barriers.
- Using symbols allows for smaller, more comfortable care labels.
- Smaller labels also cost less to produce which could translate into consumer savings.



CLOTHING LABELS



Designers need to be aware of the issues related to products that they design. The regulations detailed below need to be incorporated into their design specifications to ensure that the product created meets the demands of regulations and the end user.

GOV.UK

There are four areas of information that are required to be displayed by **LAW**:

- Garment care symbols
- Country of origin
- Fibre content
- Manufacturer (Registered Identification Number)

And on children's clothing/toys SAFETY e.g. flammability.

Key Act/Regulation	Which area of the textiles/fashion industry is it related to?
Children's Clothing (hoods/cords) Regulations 1976	Children's wear
Nightwear (safety) Regulations 1985 Nightwear (Amendment) Regulation 1987	Nightwear for adults and children
Furniture and Furnishings (Fire) (Safety) Regulations 1988 1989 1993	Any furniture, furnishings including chairs and cushions.
Toys (safety) Regulations 1995	All toys
Textile Products (indication of fibre content) Regulations 1986, 1988, 1998	All textile products, usually shown on the care label.
Footwear (indication of Composition) labelling Regulations 1995	All footwear needs to clearly show the key details of fibre content/fabric composition.

The Electric Iron. Think safe- Act safe – Be safe

Temperature Dial

This adjusts the TEMPERATURE.

Power Lead

Don't allow the cable to trail on the floor.

Temperature Indicator

It switches off when the iron reaches the set temperature.

If the plug and/or power lead are damaged in any way DO NOT USE it (any electric item).

Sole Plate

It is METAL. It gets HOT. DO NOT TOUCH.

Make sure that the iron is switched off and always placed securely on the board when not in use.

You need to know how to keep yourself and others safe in the Textiles Workshop.

As there might not be a super hero to rescue you!

This is the PLUG.

When you are finished with an iron TURN IT OFF at the mains.

Ensure the iron is placed on a secure surface, out of the way.

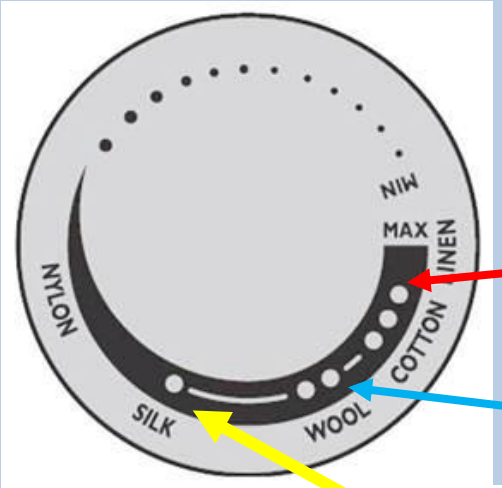
Most fabrics are prone to creasing. To work with fabrics you need them to be flat and as crease-free as possible. The best way to achieve this is to use an iron.

Ironing helps to remove creases. Irons are used for pressing too. Pressing is when you want a crease to stay in a fabric; on a collar for example or a pleat down the front of a pair of trousers.
In industry, ironing is done by hand using large steam irons.

Another use for irons is to apply the interfacing material Bondaweb which can be used for the decorative technique – Applique. Bondaweb requires heat to activate the adhesive within it.

What do the 'dots' mean?

The dots on the iron relate to the dots found on the iron symbol found on the care label. They show the temperature you should iron the garment on, so one dot = cool, two dots = medium, three dots = hot. The cross through the iron means – you guessed it – do not iron.



Do not iron

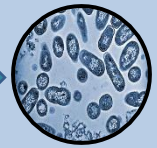
Iron on a HIGH heat

Iron on a medium heat

Iron on a LOW heat

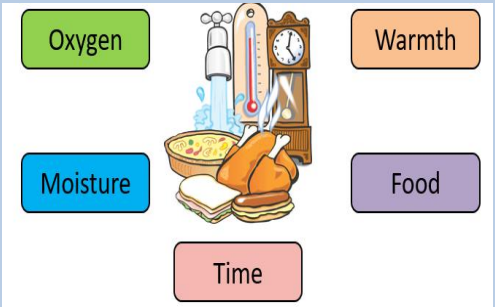
Knowledge Organiser – Year 8 Food

Bacteria are living organisms.



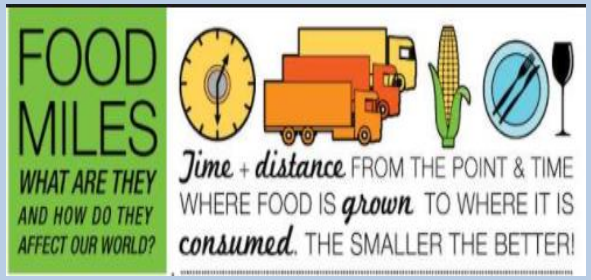
This means they need certain things to survive or like certain conditions to grow and multiply in, but what?

5 things bacteria NEED to grow



Food Standards

Some of the ethical issues surrounding food production and understanding where your food comes from.



Carbon Footprint

Carbon footprint means: The amount of carbon we as individuals produce as a result of actions we do – such as driving, shopping, using electricity etc.

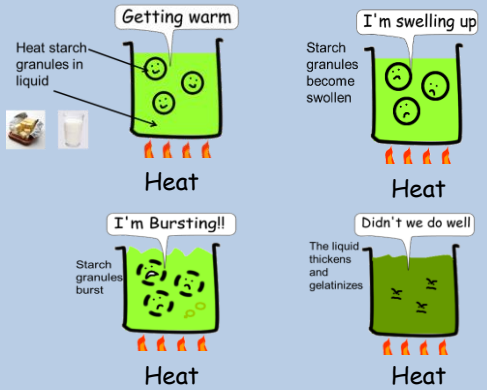
Carbon dioxide in large amounts contributes to global warming and has a negative effect on our planet.

Fair Trade

There are also rules and initiatives to help the *people* who are involved in food production to ensure they too are treated ethically.

Gelatinisation

The thickening of a liquid using starch.



When heated at 60°C, the starch granules begin to absorb the liquid and swell up.

At 80°C the particles will have absorbed about five times their volume of water until they burst open and release starch, thickening the liquid.

This process is Gelatinisation

Seasonality

We can help reduce our carbon footprint by eating foods **grown locally** and foods that are **in season** in our own country.

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.

Wider thinking / further reading: www.foodafactoflife.org.uk www.grainchain.com

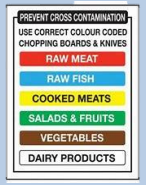
Knowledge Organiser – Year 8 Food

Key Processes

Kneading-
to work dough, to develop the gluten that is found in flour, this gives baked goods their structure and texture. When making dough, the flour and other dry ingredients are combined with the wet ingredients, usually warm water, along with yeast.

Handling Raw Meat -
Always wash hands with warm water and soap for 20 seconds before and after handling raw *meat*.

Don't cross-contaminate!
Keep *raw meat*, poultry, fish, and their juices away from other food. Wash cutting board, utensils, and countertops with hot, soapy water after use.



Reducing – heating up a sauce based product to evaporate the water and making the sauce thicker in consistency.

Cooking Skills

Chop
Fold
Roll
Knead
Shape
Simmer
Boil
Bake
Fry

Multicultural Foods

Fajitas - Mexico

Macaroni Cheese & Pizza - Italy

Sweet & Sour - China

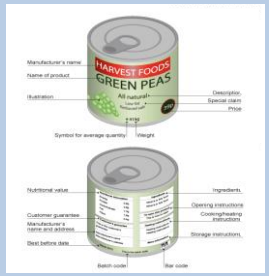
Essential Nutrients

1. Protein
2. Fat
3. Carbohydrate
4. Vitamins
5. Minerals

PLUS Water and Fibre (neither are nutrients but are required for a healthy diet).

Farm to Fork Process

Food Labelling



The Government ensures that food manufacturers must include certain information to protect the consumer.

Sources of Food

Ingredients can be grown, gathered, caught, reared or made / manufactured.

This aspect of food is known as **FOOD PROVENANCE**

Why do we need to know this?

How food is produced has an impact on it's quality, its nutritional properties, the environment, as well as its cost.

The general rule is **'the closer to its original form, the better the food is for us'.**

Packaging

TYPE OF PACKAGING	EXAMPLE USES	ADVANTAGES	DISADVANTAGES
Glass	Jam, pasta sauces,	Strong, see product through, sense of quality leakproof	Heavy, breaks easily
Aluminium Foil	Takeaway meals, pies,	Can hold heat, can be heated, can be shaped, rigid, leakproof, portion control	Cheap, not very strong
Cardboard & oven proof paperboard.	Ready meals, sandwiches, dry cerealss	Can be printed onto, greaseproof, lightweight, can be recycled, leakproof	Does keep fresh
Paper	Sugar, flour,	Cheap, lightweight, can be printed onto	Not water resistant or leakproof,
Cling film	Meat onto of plastic trays	Easy to shape, cheap	Not strong
Plastics	Milk bottles, yoghurt pots, margarine tubs,	Can be moulded into shapes, can be see through, cheap, can be recycled, can be see through	Not always easy to recycle, hygienic
Polystyrene	Takeway meals, hot drinks	Keeps food hot	Can't be printed onto, difficult to recycle
Tin cans	Baked beans, meat sauces, fruit, vegetables	Strong, leakproof, portion control, product sealed so extends shelf life	Heavy, cannot be printed onto

Y8 GRAPHICS

Graphic design is a craft where professionals create visual content to communicate messages

TYPOGRAPHY

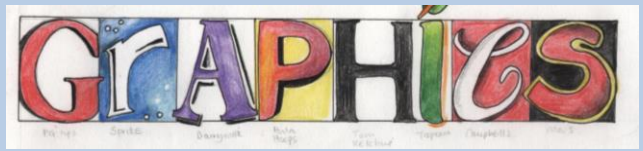
Typography is the art of arranging letters and text in a visual, creative, clear and legible manner. Typography is the art of font, using appearance and structure to convey a message whilst still being visually engaging and interesting.

The 'golden rule' of typography is that it should link well to your brand. This can include elements such as; design of letters, shape of letters, subject matter or imagery used next to or with letters.

FORMAL ELEMENTS

GRAPHIC DESIGN

- GAMES
- POSTERS & BILLBOARDS
- WEBSITES
- VIDEO & ANIMATION
- BOOKS & PUBLICATIONS
- FLYERS & BROCHURES
- CD'S
- BOOKS & PUBLICATIONS



What does a graphic designer do?

Graphic Designers create visual concepts to communicate information. They create everything from posters and billboards to packaging, logos and marketing materials. Graphic Designers use elements such as shapes, colours, typography, images and more to convey ideas to an audience.

KEY TERMS	DEFINITION
Graphic Design	The art or skill of combining text and pictures in advertisements, magazines, or books.
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.
Typography	The art or practice of setting and arranging type.
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 .

Y8 GRAPHICS

Graphic design is a craft where professionals create visual content to communicate messages

MOOD BOARDS

Mood boards are used to inspire us creatively. Mood boards comparing colour combinations are a fantastic way to gain a visual understanding of colours which compliment each other.

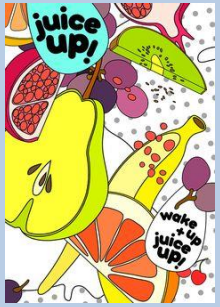
Elements of a successful mood board:

- Colour swatches/blocks which explore colour themes
- Inspirational imagery
- Your own text, photos to support ideas
- Your own sketches to support ideas
- A theme as a starting point

WATERCOLOUR

- Start with the lightest colour first, add a wash of the colour.
- Layer in darker colours and tones over the top.
- Control the amount of water on your brush – too much and it will run.
- Let sections dry before you add detail, this will keep them clear.

PACKAGING DESIGN INSPIRATION



What is the difference between labelling and annotating?

Labelling is when you show what something is for example a logo. Annotation is when you explain why the logo looks like it does and reasons for your design choices.

INITIAL DESIGN IDEAS

An opportunity to explore possible solutions that meet the design brief that has been set and the specification. Initial drawings do not need to be perfect and can be quick 'concept' sketches. Annotation should be added to explain your ideas in detail and depth.

COLOUR THEORY

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.

Complimentary colours are colours which are opposite to each other on the colour wheel. Examples of complementary colour combinations are: Red and green; yellow and purple; orange and blue; green and magenta. Complementary colour combos tend to be bold, which is why sports teams often use this formula for their colours.

Graphic Designers:

Sarah Dennis
Georgina Luck
Jennifer Hines
Alice Pattullo
Mike Steffanini
May Van Milligan

DESIGNER ANALYSIS PROMPTS

- I have been looking at the work of ……..
- I would describe their style as ……..
- The colours used are …….
- I would describe the lines used as …….
- I could use this artist to influence my own work by ……..