



The Trafalgar School at Downton

Knowledge Organiser

Year 8: Terms 5 and 6



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

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Using a Knowledge Organiser well

What is a Knowledge Organiser?

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

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

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

How should I use my Knowledge Organiser?

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

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

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

Why is a Knowledge Organiser important?

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





WHAT WE EXPECT FROM YOU

BE ON **TIME** ●

BE **EQUIPPED** ●

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

LISTEN TO STAFF AND **ALWAYS**
COOPERATE ●

DO NOT INTERRUPT **LEARNING** TIME ●

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

SHOW **RESPECT** ●

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

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

Being Trafalgar

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

To help yourself you should:

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

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

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



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



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

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

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



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

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

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



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



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

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

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



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

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

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

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

The dog knocked over the vase with a crash!

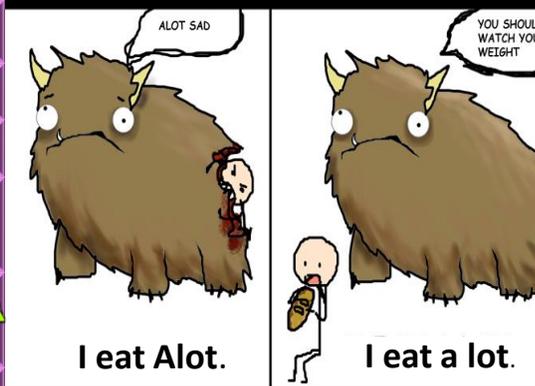


Dancing on the water, the sun shone endlessly.

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



PROPER GRAMMAR



IT SAVES LIVES.

<p>With the apostrophe</p> <p>it's</p> <p>Contraction of "it+is" or "it+has"</p> <p>It's great to see you. It's been fun. It's clear to see.</p>	<p>Without the apostrophe</p> <p>its</p> <p>Possessive form of "it"</p> <p>The tree dropped its leaves. The pencil lost its point. A robot recharged its battery.</p>
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Use fronted adverbials:

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

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

Use a two and then three word sentence:

It hurt. I was dying!

Snow fell. Flakes floated precariously.

Use anaphora:

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

Use epiphora (epistrophe)

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

Use a range of sentence structures:

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

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

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

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

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

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

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

Use a tricolon (tripartite list):

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

Snap! Crackle! Pop! (Rice Krispies slogan)

Use a conditional sentence:

When people smoke cigarettes, their health suffers.

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

Use paired adjectives to describe a noun:

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

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

Use anadiplosis (yoked sentence):

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

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

Use different sentence types:

The wind is blowing. (declarative)

Put your pen down. (imperative)

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

Pollution is killing us! (exclamation)

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

First of all, To begin with, Firstly,

Therefore, Consequently, Hence, As a result,

Furthermore, In addition, Additionally, Moreover,

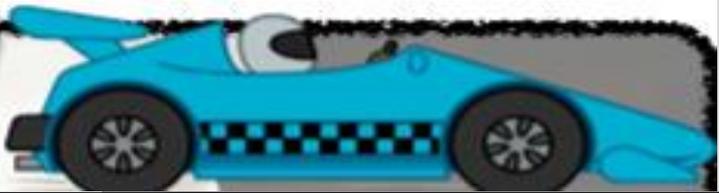
Meanwhile, Later that day, Seconds later, Subsequently, That afternoon,

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

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

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

PUNCTUATION PIT STOP



Full Stop

Full stops are used to:

1) mark the end of a sentence.

Carefully, he kicked the ball into the goal.

2) show when a word has been abbreviated.

Saint Peter's Road is on the High Street.

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



COMMAS

Commas are used to separate:

1) items in a list.

Bert, Ernie and Elmo are my three pet rats.

2) **dependent clauses and phrases.**

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



Quotation Marks

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

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



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

Question Mark

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

What is your favourite food?

How do you feel today?

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

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



Exclamation Mark

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

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

They're also used for most interjections:

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

'Oh! When are you going?'



Semi-colon

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

It was winter; the snow was falling heavily.

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



Colon

Colons are used to:

1) begin a list.

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

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

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



Apostrophe

An apostrophe is used to show:

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

does not → doesn't I am → I'm

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



Dash —

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

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

Brackets

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

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

Tigers are carnivores (meat eaters)!

Ellipsis

Ellipsis is used to:

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

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

2) build tension or show that something is unfinished.

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



PUNCTUATION PIT STOP



Writing the text for a leaflet

Stay Safe and Sound Online

clear/apt/original title

subtitles

Manage your online reputation

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

effectively/fluently sequenced paragraphs

Privacy Matters

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

Writing Forms

bullet points

Remember:

- make sure you know how to block abusive comments and report worrying content;
- don't arrange to meet people in real life that you've only talked to online;

Text for a Speech 'Address to Nation on the Challenger' by Ronald Regan (28th January, 1986)

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

a clear address to an audience

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

rhetorical indicators that an audience is being addressed throughout

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

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

Thank you.

Article

Andy Murray's Appliance of Science

clear/apt/original title

By Jim White

by-line

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

strapline

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

Sample Check

Today, before he even steps out on to the Centre Court for his Wimbledon semi-final, the 27-year-old, 2009 Wimbledon champion has already been subject to several of these. He does a urine test every time he pops to the lavatory. The osmolarity check is conducted by one of his staff, its purpose to gauge the percentage of water and minerals in his urine, to show whether his body is correctly hydrated. The fact is, if Murray wins today, it will only be thanks to the bloke who inspects his wee.

Daily Diet

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

Writing in the Essay Form

clear title

Zoos Should be Banned

effective introduction

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

effectively/fluently linked paragraphs to sequence a range of ideas

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

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

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

convincing conclusion

Writing a formal letter

221B Bakers Street
London
NW1 6XE

reader's
address

Writing
Forms

writer's
address

35 Hibiscus Crescent
Andover
Hants
SP10 3WE

date

20th February, 2020

Dear Sir or Madam

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

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

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

fluently sequenced paragraphs

fluently sequenced paragraphs

Furthermore, ...

Yours faithfully
Boris Johnson

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

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

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

"Kuno!"

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

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

His image faded.

Again she consulted the book. She became very nervous and lay back in her chair palpitating. She directed the chair to the wall, and pressed an unfamiliar button. The wall swung apart slowly. Through the opening she saw a tunnel that curved slightly, so that its goal was not visible. Should she go to see her son, this would be the beginning of the journey.

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

Journey Description

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

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

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

Description of Place

spatial discourse markers

adjectives

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

Metaphor, simile, personification

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

sensory description

sensory description

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

spatial discourse markers

sensory description

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

adjectives

Climax (problem at its worst)

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

Fail to Plan
Plan to Fail!

Rising Action (build up/conflict)

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

Falling Action (fix problem)

- Character/s solving conflict/dilemma/ problem.

Exposition (introduction)

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

Resolution/Dénouement (ending)

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

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

Conclusion:
To conclude,
repeat RQ,
Yes.

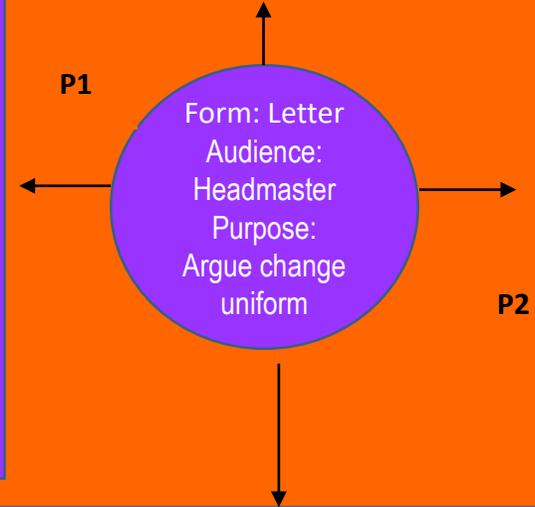
Yours
Sincerely

Intro: My address right hand side, +
date, school address left,
Dear Mr Curtis

Should we consider discontinuing
wearing a school uniform, you've
asked? Quite simply, yes! Within this
letter, you will find several arguments
setting out precisely why we should
make this change.

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

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



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

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

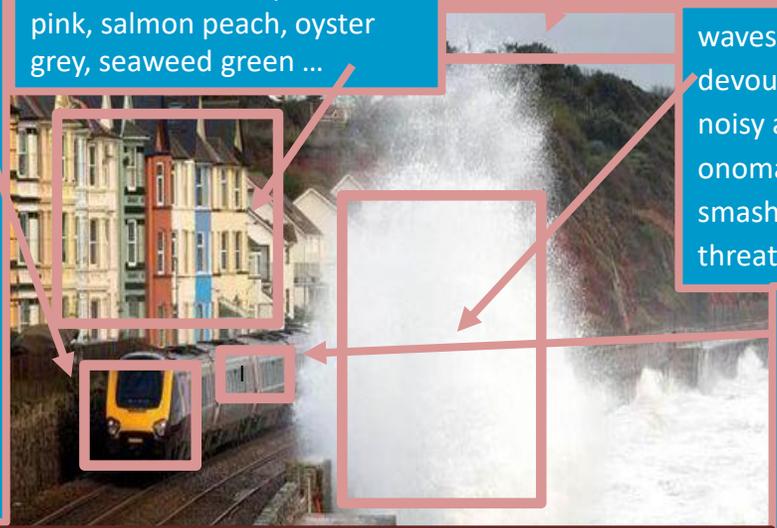
Personify train - a victim moving along railway line, past houses, towards destination - metaphor: caterpillar train sways and pitches precariously along the track to its daily destination. Snatching bites, the sea salt nips at its metal skin as it passes, gnawing at it, killing it. Rattles. Will it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

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

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

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

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

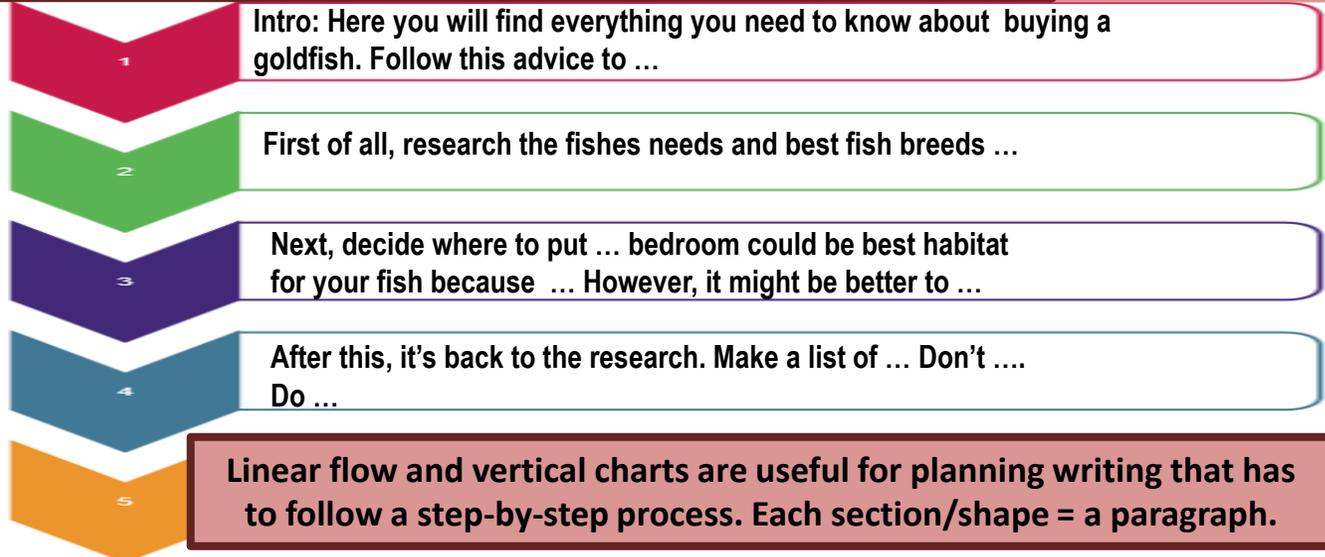


The Grid Plan is good for making sure you include lots of different methods, or to compare two/more things side-by-side. Each row/column = a paragraph.

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!**

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



Writing Purposes

Key Language/Structural methods

Chocolate Model!



Most often

Mis spelled
words

argument	parallel
because	really
completely	religious
conscience	remember
conscious	ridiculous
disappear	sense
existence	separate
fourth	surprise
friend	tomorrow
height	tongue
intelligence	truly
knowledge	until
lightning	weird
occasion	wherever
occur	whenever

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 its **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.

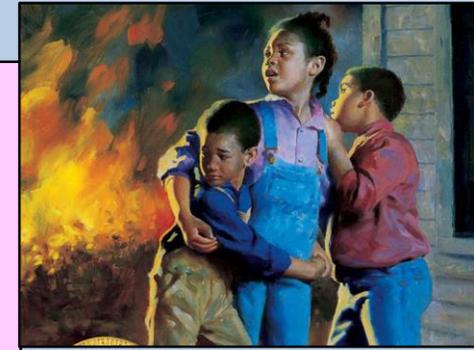
Plot Summary

Year 8, Term 5 & 6: *Roll of Thunder, Hear My Cry*

The Logan family works hard to keep the small piece of farmland they own. They endure many racial injustices. The children are harassed by a school bus full of white children, so they dig out a ditch in the road, trapping the bus and breaking the axle. Cassie, one of the Logan daughters, takes a trip to the nearby town of Strawberry and is shocked by the disrespect she is greeted with. Meanwhile, more serious problems are developing. The Wallace boys burn some local black men, killing one, and so the Logan family begins a boycott of their store. When Stacey, their oldest boy, gets in a fight with his best friend T. J. at the Wallace store, Mama decides to take a tour of the local community and urge people not to let their children go there and not to purchase goods there. However, many families have nowhere else to shop. The Logans offer to buy goods for them in Vicksburg, and Mr. Jamison backs their credit.

Meanwhile, Christmas comes, and both Uncle Hammer and Papa come home to join the family. Uncle Hammer drives a shiny new car. When Harlan Granger comes to try to convince the Logans to stop the boycott, Hammer and Papa are both defiant. However, Mama soon loses her teaching job, and other pressure is put on the Logan family. Other families who sharecrop Granger land are forced to return to the Wallace store. And finally, Papa's leg is broken during a violent attack he suffers while trying to make a trip to Vicksburg. Only the brute strength of Mr Morrison, a man Papa brings home to help work and defend the farm, drives away the attackers. Soon, Granger forces the Logans to pay up on a loan they once took out from the bank.

Uncle Hammer has to sell his car in order to make the payment. Meanwhile, T. J. has become a rogue, a known thief, and he hangs out with two trouble-making white teenagers, Melvin and R. W. One day, they bring him along to rob a store and the white teenagers end up murdering the owner, managing to frame T.J. for the crime. Papa and Mr Morrison go to stop the lynching that follows. Almost as soon as they leave, however, the cotton field catches fire, as if it was struck by lightning. The lynch mob and the local black farmers must band together in order to stop the fire. It turns out that Papa started the fire in order to stop the lynching. T.J. is taken away to be tried for his supposed crimes.



Themes

- The importance of family
- The importance of community
- The importance of land
- Self-respect and the respect of others
- Racism and prejudice
- Independence
- Injustice and dignity
- Revenge

Characters

Cassie Logan – Protagonist and narrator of the novel. She is 9 years old and naïve about the issues of racism and prejudice.

Stacey Logan – Oldest of the Logan siblings at 12 years old. He is protective of his siblings and understands the issues of racism and prejudice.

Christopher-John Logan – He is 7 years old. His character is timid and therefore the opposite of his siblings.

Clayton ‘Little Man’ Logan – Youngest of the Logan siblings at 6 years old. He does not understand racism or prejudice but he knows he does not like it.

David Logan, ‘Papa’ – He values his independence and works on the railroad.

Mary Logan, ‘Mama’ – Mother of the family. Worked at the elementary school until T.J. gets her fired.

Caroline Logan, ‘Big Ma’ – Grandmother of the Logan children. Main caretaker of the house.

Uncle Hammer – Uncle of the Logan children. He does not like racism. He is hot tempered and has a lot of money.

T.J. Avery – The Logan children’s friend at the start until he gets Mama fired from the school. He is at the same school as the Logan children but has been held back a year and likes to attempt to cheat on tests.

Mr Morrison – Papa brings him home to help work on the land and protect the family. He is a massive and strong character who appears quite intimidating.

Mr Jamison – A white lawyer who genuinely wants to help the black farmers.

About the Author

“By the time I entered high school, I had a driving compulsion to paint a truer picture of Black people... I wanted to show a Black family united in love and pride, of which the reader would like to be a part.” – Mildred D. Taylor.



Mildred D. Taylor was born on September 13, 1943, in Jackson, Mississippi. Like the Logan family, the Taylor family had lived in Mississippi since the days of slavery, long before 1865! However, when Mildred was just a tiny baby, her parents decided to make a new life in the North. The Taylors moved to Toledo, Ohio. The family was large, close and loving.

When she was 10, Taylor was the only black child in her class. She was upset about the one-sided stories about black Americans in her history books. There was no pride in these stories. When she shared her own facts about black history with the class, they thought she was making things up – so she turned to writing stories for herself.

Year 8, Term 5 & 6: *Roll of Thunder, Hear My Cry*

The Reconstruction Era (1865-1877)

A turbulent era in America following the Civil War in which Southern states were brought back into full political participation in the Union, guaranteeing rights to former slaves and defining new relationships between African Americans and white people.

The American Dream

The American Dream is the belief that anyone, regardless of where they were born or what class they were born into, can attain their own version of success in a society in which upward mobility is possible for everyone.

The 'Jim Crow' Laws

These began in 1877 and were enforced until 1965. The 'Jim Crow' laws mandated racial segregation in all public facilities in the South.

The Great Depression

The worst economic downturn in the history of the USA, lasting from 1929 – 1939. It began after the stock market crash of October 1929.

Ku Klux Klan

Following the Civil War, the Ku Klux Klan emerged to suppress and victimise newly freed slaves. The group took violent steps to maintain black economic instability in an effort to ensure white racial and economic superiority in the South.

Sharecropping

A type of farming in which families rent small plots of land from a landowner in return for a portion of their crop, to be given to the landowner at the end of each year.

Context to the Novel

Key Vocabulary

Prejudice

Preconceived opinion that is not based on reason or actual experience; an irrational attitude of hostility towards an individual, group or race.

Discrimination

The prejudicial treatment of different categories of people, especially on the grounds of race, age, sex, or disability.

Segregation

The action or state of setting someone or something apart from others.

Justice

Fairness in the way people are dealt with.

Injustice

A situation in which there is no fairness and justice.

Civil Rights

A class of rights that protect an individual's freedom from violation by governments, social organisations, and anybody else.

Intolerance

Refusing to accept ideas, beliefs, or behaviours that are different from your own.

You need to be able to:

Convert between simple fractions, decimals and percentages.

Convert between fractions and recurring decimals and percentages.

Compare fractions, decimals and percentages.

Order fractions, decimals and percentages by converting.

Percentage

$45\% = \frac{45}{100} = 0.45$

$6\% = \frac{6}{100} = 0.06$

Hegarty clip 83

Percentage means out of 100. This will cancel to 9/20

Some FDP to know

Decimals

$0.35 = 35\%$

$0.07 = 7\%$

Hegarty clip 55

There are no tenths so this must be less than 10%

Fractions

$\frac{63}{100} = 0.63$

$\frac{11}{25} = \frac{44}{100} = 0.44$

Hegarty clip 73,74

Can you write the fraction over 100?

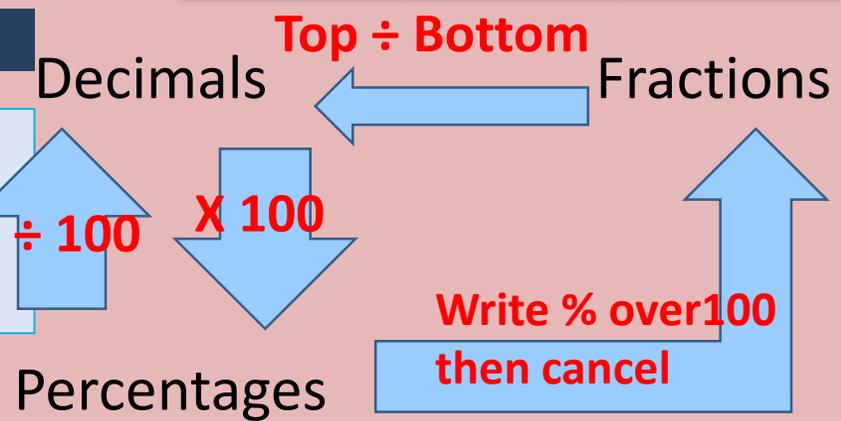
$\frac{1}{2} = 0.5 = 50\%$

$\frac{3}{5} = 0.6 = 60\%$

Hegarty clip 75,76

To change a fraction into a decimal divide the numerator by the denominator

F	D	P
$\frac{1}{100}$	0.01	1%
$\frac{1}{20}$	0.05	5%
$\frac{1}{10}$	0.1	10%
$\frac{1}{8}$	0.125	12.5%
$\frac{1}{5}$	0.2	20%
$\frac{1}{4}$	0.25	25%
$\frac{1}{2}$	0.5	50%



Compare FDP

To compare FDP we need to get them in the same format.

Example: Which is bigger 68% or 0.7?

We can either change the 0.7 into a percentage or the 68% into a decimal.

$$0.7 = 70\%$$

Make sure you write answer as it was originally written in the question.

Which is bigger 68% or 70%?

70% is bigger so the answer is **0.7**.

Example: Which is bigger $\frac{13}{20}$ or 0.67?

$$\frac{13}{20} = \frac{65}{100} \quad 0.67 = \frac{67}{100}$$

HegartyMaths clip 60

0.67 is bigger.

Writing both over 100 makes it easier to compare.

Ordering FDP

To order FDP, we need to write them all in the same format.

Example: Order from smallest to largest

$$\frac{1}{2}, 0.19, 28\%, \frac{1}{3}, 0.3$$

We can convert them all into fractions, decimals or percentages as long as you convert them all into the same.

HegartyMaths clip 73 to 76

Changing them to percentages:

$$\frac{1}{2} = 50\%, 0.19 = 19\%, \frac{1}{3} = 0.333... = 33.3...%, 0.3 = 30\%$$

$$50\%, 19\%, 28\%, 33.33...%, 30\%$$

From smallest to largest:

$$19\%, 28\%, 30\%, 33.33...%, 50\%$$

Answer:

HegartyMaths clip 149

$$\mathbf{0.19, 28\%, 0.3, \frac{1}{3}, \frac{1}{2}}$$

What do I need to be able to do?

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

Key words

Data

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

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

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

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

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

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

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

HegartyMaths clips 392, 393

Collecting Data

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

Secondary data – Using data collected by someone else.

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

Organising Data

HegartyMaths clip 401

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

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

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

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

Analysing Data

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

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

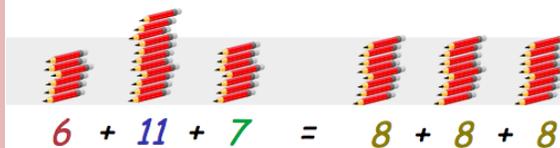
HegartyMaths clips 405 to 408

Example 1: What is the Mean of these numbers?

6, 11, 7

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

The Mean is 8



It is like you are "flattening out" the numbers

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

HegartyMaths clip 404

Example:

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

In order these numbers are:

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

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

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

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

Biggest – smallest = Range

Analysing Data

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

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

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

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

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

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

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

The middle number is the 8th number:

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

The Median is 23

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

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

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

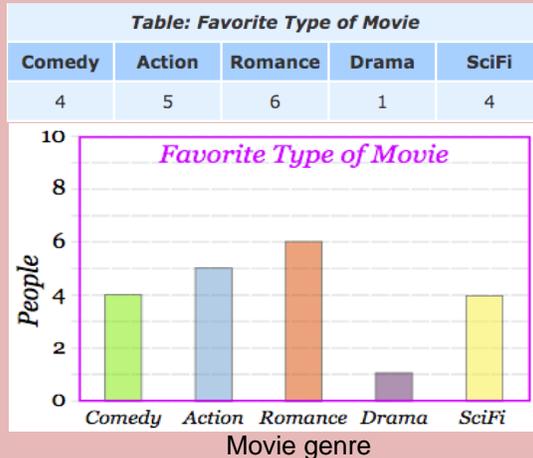
Step 2: $n = 4 \quad \frac{n+1}{2} = \frac{4+1}{2} = 2.5^{\text{th}}$

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

Presenting Data

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

Bar Chart:

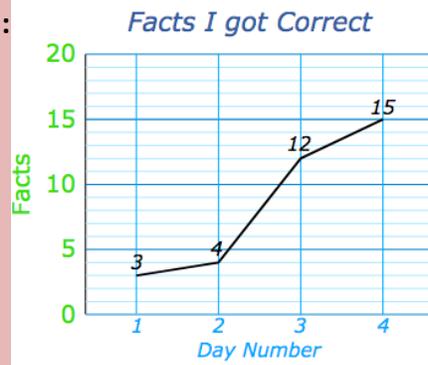


The perfect **Bar chart** must:

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

Line graph:

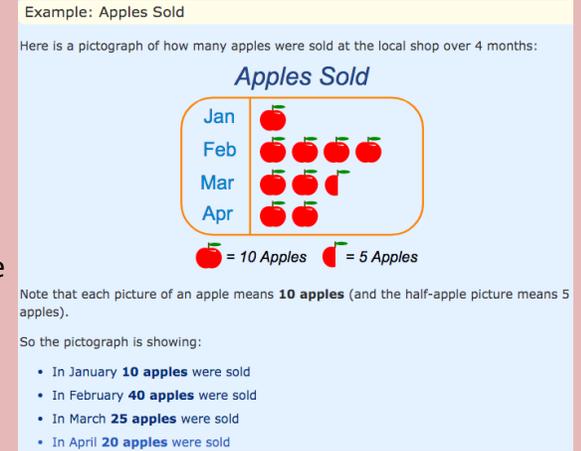
Same as a bar chart but data points connected by straight lines.



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

The perfect **Pictogram** must:

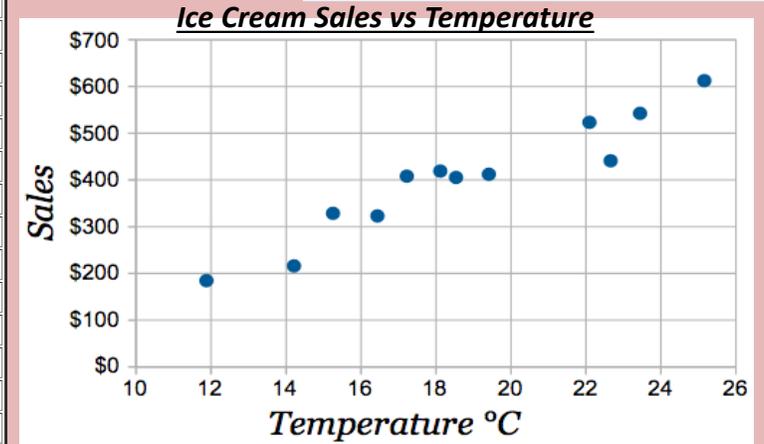
- Have a title
- Have a key showing the value of the image
- Have images of an equal size and shape with equal distance between each image



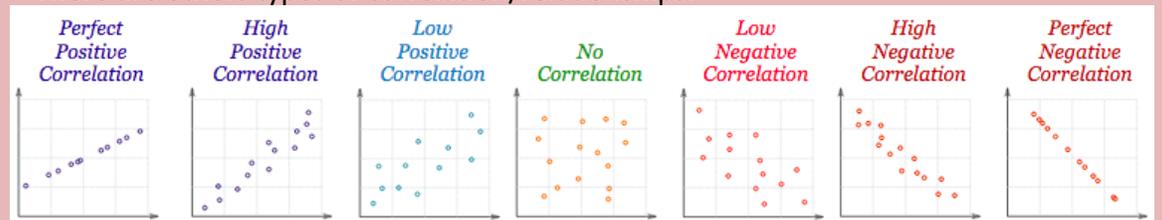
Scatter Graph – shows the relationship between two quantitative data sets.

Ice Cream Sales vs Temperature

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



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



Pie chart

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

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

Comedy	Action	Romance	Drama	SciFi
4	5	6	1	4

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

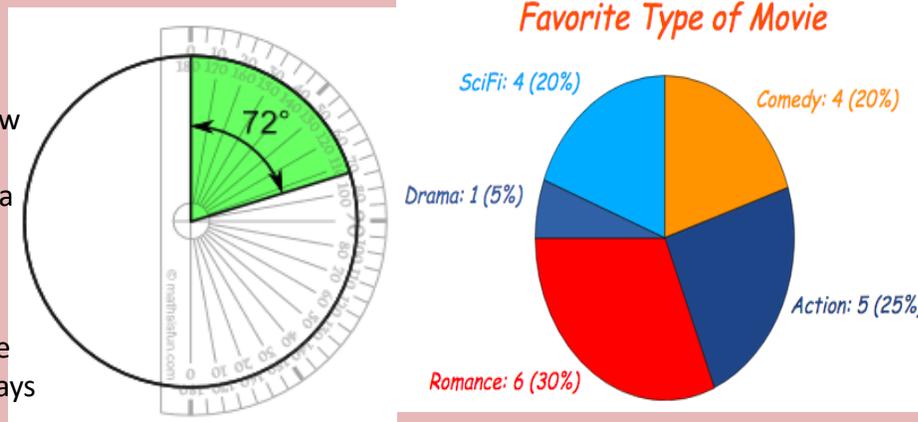
$$\frac{360}{20} = 18^\circ$$

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

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

How to draw a pie chart:

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



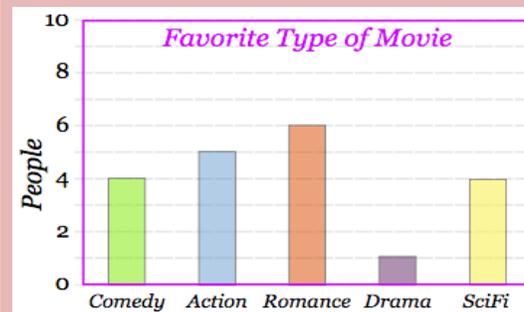
Interpreting Data

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

Examples:

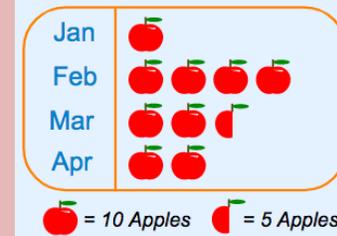
Colour	Tally	Frequency
Red		13
Blue		9
White		24
Black		12
Other		9

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



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

Apples Sold



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.

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,

Hegarty clip 349-350

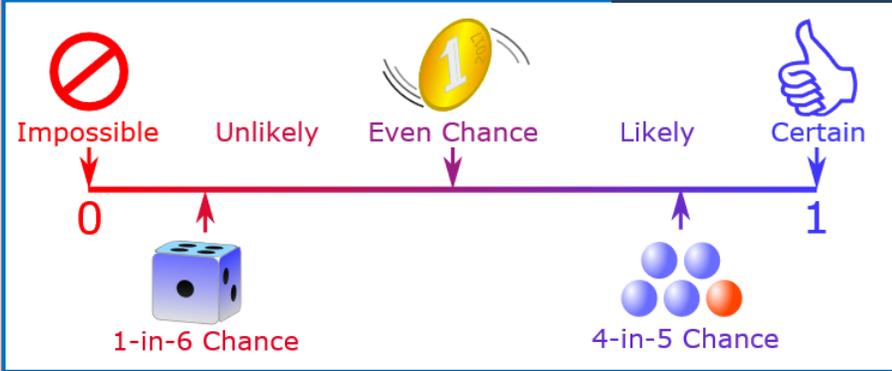
Skills you will need: Addition, Subtraction, Multiplication of Fractions

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

HegartyMaths clip 349

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 1/2 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

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.

HegartyMaths clip 356

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

$$\frac{2}{3} \times \frac{6}{4}$$

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

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

0 ≤ probability ≤ 1

Year 8 Maths Term 5 Probability

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

HegartyMaths clips 358, 359

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

HegartyMaths clips 351, 352

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?

$$0.3 \times 24 = 8 \quad 8 \text{ games}$$

HegartyMaths clips 355

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

HegartyMaths clips 354

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.

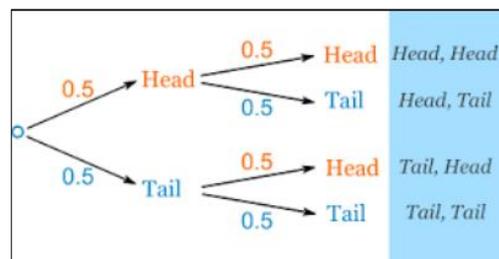
Therefore if: **The P(Success) = 0.9** then **The P(Failure) = 1 - 0.9 = 0.1**

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.

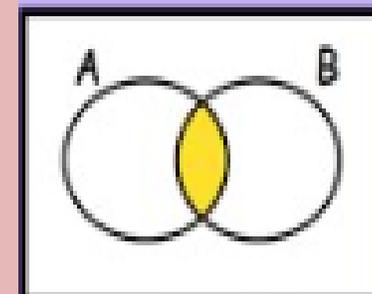
HegartyMaths clips 360

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.



HegartyMaths clips 361 to 367



HegartyMaths clips 372 to 388

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

Year 8 Maths Term 6 – Sequences, Straight Line Graphs & Transformations

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 n^{th} 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 n^{th} 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?

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Example: Find the n^{th} term of 4, 7, 10, 13...

The common difference is 3, therefore the n^{th} 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

$$\Rightarrow 3n + 1$$

You could list the common difference times-table on **3, 6, 9, 12...** top of your sequence to help you find the adjustment. **4, 7, 10, 13....** ↓ +1

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Example: Find the n^{th} term of 7, 5, 3, 1...

The common difference here is -2, therefore the n^{th} term will include “ $-2n$ ”

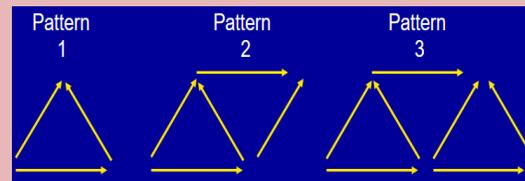
The -2 times-table is -2, -4, -6, -8... so the adjustment to get this to our sequence would be +9

$$\Rightarrow -2n + 9 \text{ (or } 9 - 2n)$$

You could list the common difference times-table on **-2, -4, -6, -8...** top of your sequence to help you find the adjustment. **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	?!)
n^{th} term rule $\Rightarrow 2n + 1$				

You can see the pattern is going up in 2s so there would be 9 matchsticks in pattern 4. You can use the n^{th} term to see how many matchsticks would be in pattern 100 by substituting $n = 100$.

$$\text{Pattern } 100 = 2 \times 100 + 1 = 201.$$

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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**.

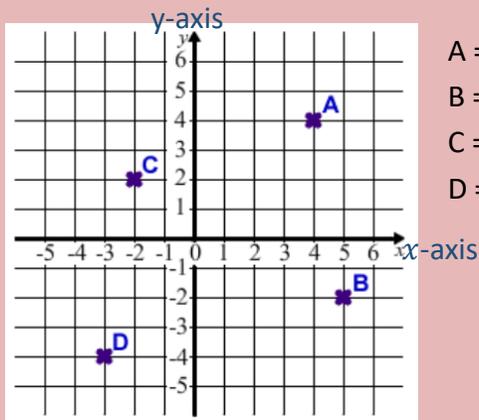
Form and solve an equation i.e.:

Here n is **not an integer** so 72 is **not a term**

$$\begin{aligned} 5n - 2 &= 72 && (+2) \\ 5n &= 74 && (\div 5) \\ n &= 14.8 \end{aligned}$$

What do I need to be able to do?

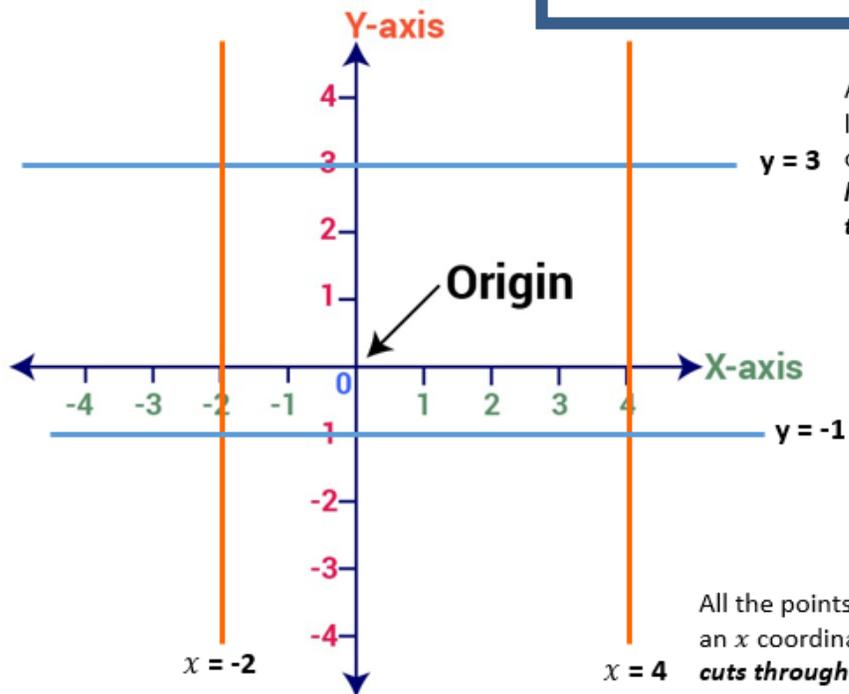
- Plot and read Cartesian Co-ordinates
- Identify and plot lines parallel to the axes
- Recognise the line $y = x$
- Understand what a gradient and y-intercept is
- Recognise a positive and negative gradient
- Give an equation of a line that is parallel to a given line
- Plot lines in the form $y=mx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

HegartyMaths clip 199



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

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

HegartyMaths clip 205

Plotting a Straight Line Graph

Every straight line has an equation in the form of:

$$y = mx + c$$

the steepness of the line

where the line cuts the y axis

The **GRADIENT**

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)

HegartyMaths clips 206 to 213

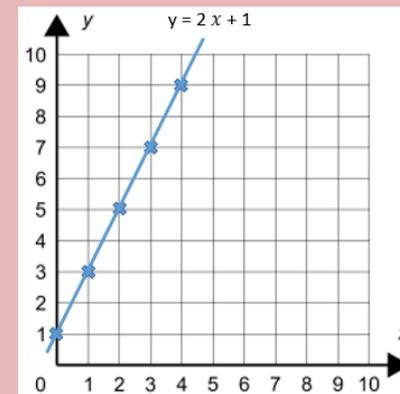
x	0	1	2	3	4	5	6
$y = x + 3$	1	3	5	7	9	11	13

↓
↓
↓
↓
↓
↓
↓
↓

(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.

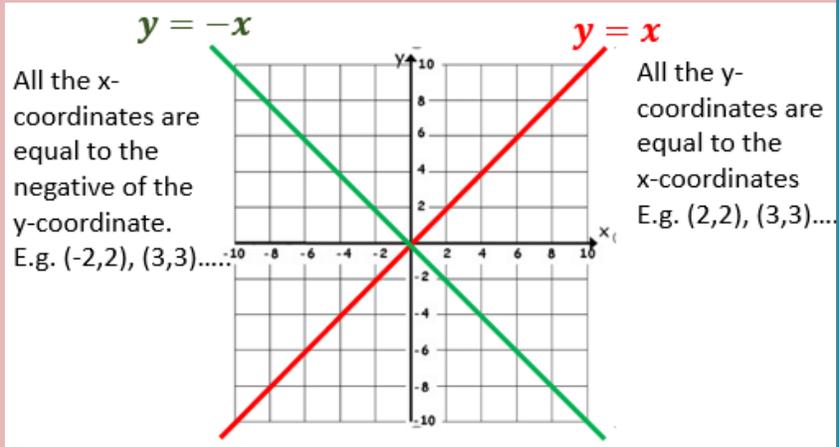
Notice the link between sequences: in this case you are finding the first 6 terms of the sequence $2n + 1$



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**.

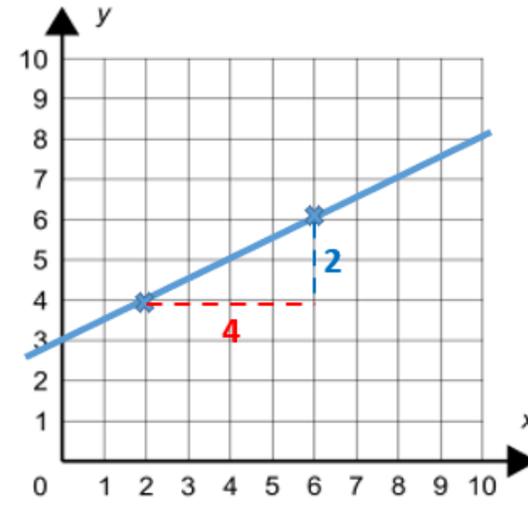
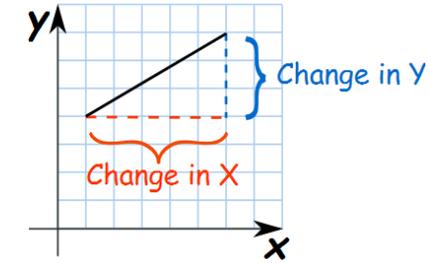
A line that goes straight across horizontally, has a gradient of 0.



HegartyMaths clips 201 to 204

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

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



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

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

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

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

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

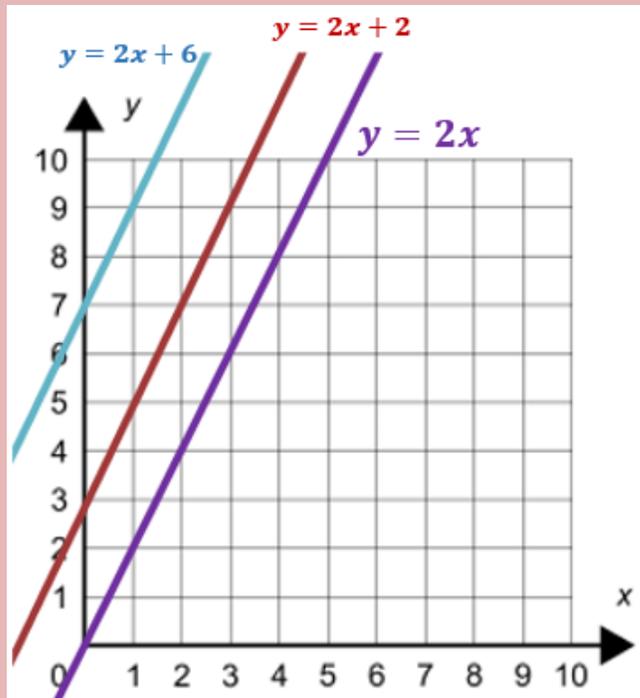
When plotting graphs remember to:

- 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

HegartyMaths clip 214



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.

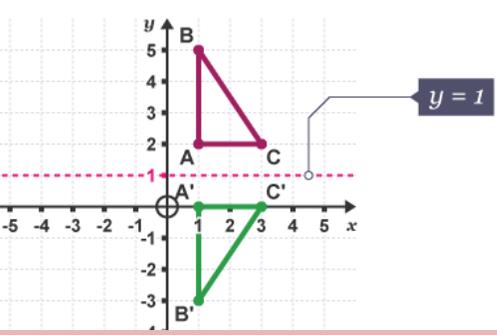
So if two lines have the same gradient, they are parallel.

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

Transformations

Reflection

A reflection is when you create a mirror image across a line. The image should be the same distance away from the mirror line.



Shape A'B'C' is a reflection of the shape ABC in the line $y=1$

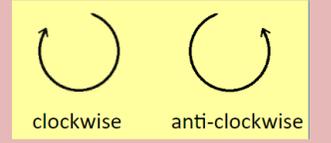
Describing Reflections
 If a shape has been reflected, you must state it has been reflected and give the equation of the line it has been reflected in (mirror line)

Example: Describe the transformation of the shape A to shape B

Step 1: Find the equation of the mirror line
 Equation is: $y = 3$

Answer is:
 A reflection in the line $y = 3$

Rotation



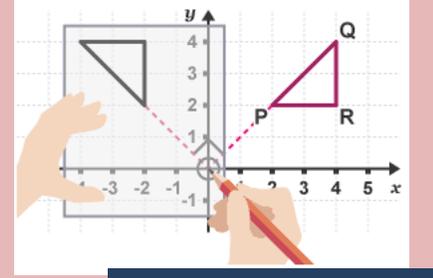
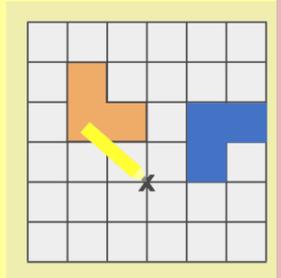
Rotating a shape means you are turning it around a point. You need 3 things:

- 1) Angle of rotation
- 2) Centre of Rotation (usually a co-ordinate)
- 3) Direction – Clockwise or Anti-clockwise

90° means a quarter turn
 180° means a half turn
 270° means a 3 quarters turn

Example: Rotate the shape 90 degrees about point marked x

- Step 1: Place tracing paper over grid
- Step 2: Copy the shape on the tracing paper
- Step 3: Place your pencil on the marked point
- Step 4: Rotate the shape
- Step 5: Copy the shape onto the grid



Translation

A translation is when you move or slide a shape without changing it in any other way.

Translations with Vectors
 Vectors are used to describe translations
 The top number tells you how far to move left or right
 The bottom number tells you how far to up or down
 A positive number corresponds to right/up and negative left/down

- $\begin{pmatrix} 6 \\ 3 \end{pmatrix}$ means: right 6 and up 3
- $\begin{pmatrix} -2 \\ 8 \end{pmatrix}$ means: left 2 and up 8
- $\begin{pmatrix} 0 \\ -3 \end{pmatrix}$ means: left 0 and down 3

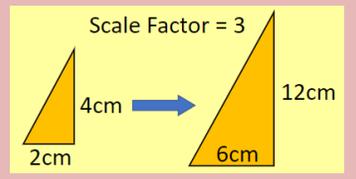
Translate Shape A by the vector $\begin{pmatrix} 3 \\ -4 \end{pmatrix}$

This means 3 right and 4 down

To describe a translation, you must state it has been translated and give the vector translation.

Enlargement

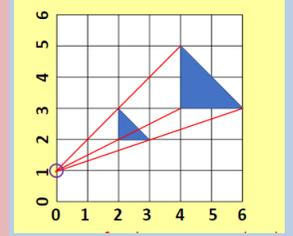
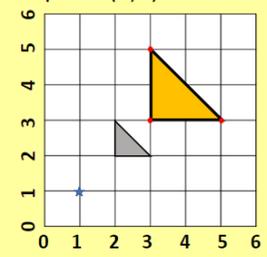
An enlargement is when you change the size of a shape using a scale factor. The scale factor tells you how many times bigger the shape is.



You can find the centre of enlargement by joining up the corresponding corners of the shapes. The point where the lines intersect is the centre of enlargement.

Enlargements from a Point
 When a shape is enlarged from a point, the distance from the point is also enlarged

- Example: Enlarge by a scale factor of 2 from the point (1,1)
- Step 1: Pick up a point and see how far away it is from the centre of enlargement
 - Step 2: Multiply the distance of both horizontal and vertical by the scale factor, and mark the new point
 - Step 3: Repeat for all corners of the shape
- Draw the shape !**

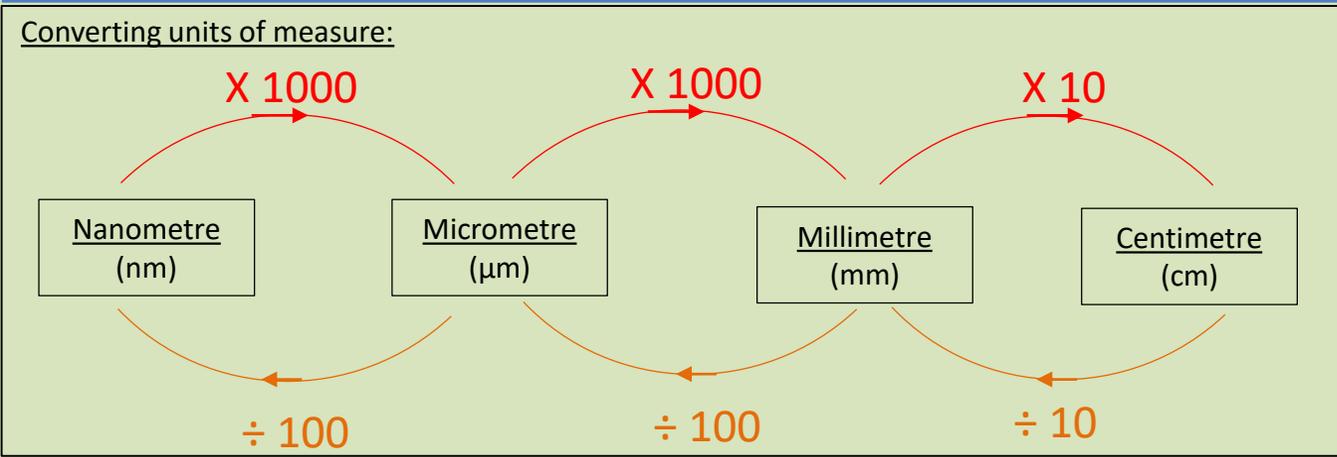


$=(0, 1)$

Science: Useful Information

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

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



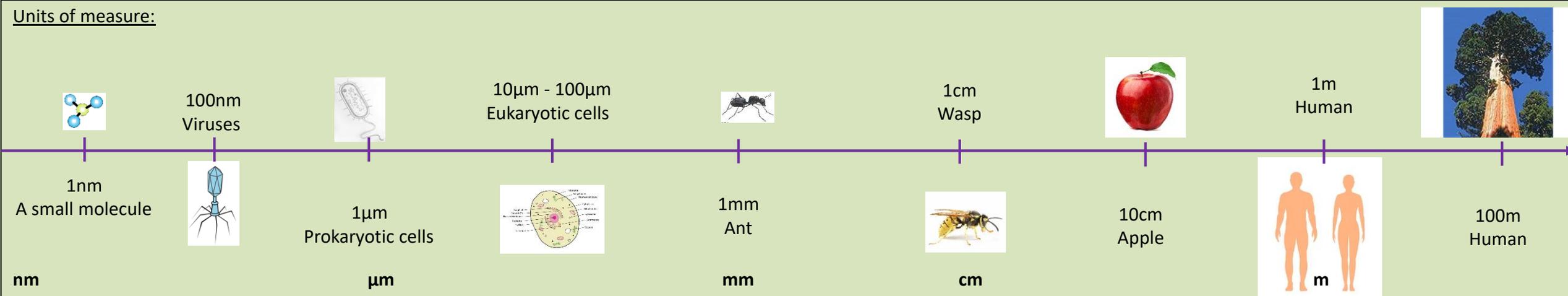
Variables:

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

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

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

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



KEY:

RELATIVE ATOMIC MASS
Atomic Symbol
name
ATOMIC (PROTON) NUMBER

The Periodic Table of Elements



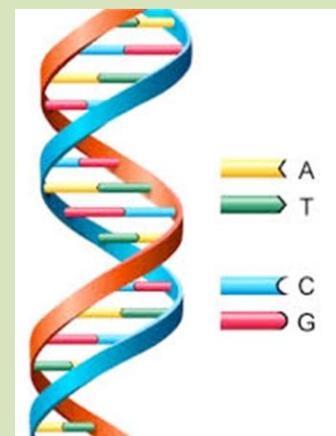
1	2											3	4	5	6	7	0	
																		4 He helium 2
7 Li lithium 3	9 Be beryllium 4											11 B boron 5	12 C carbon 6	14 N nitrogen 7	16 O oxygen 8	19 F fluorine 9	20 Ne neon 10	
23 Na sodium 11	24 Mg magnesium 12											27 Al aluminium 13	28 Si silicon 14	31 P phosphorus 15	32 S sulfur 16	35.5 Cl chlorine 17	40 Ar argon 18	
39 K potassium 19	40 Ca calcium 20	45 Sc scandium 21	48 Ti titanium 22	51 V vanadium 23	52 Cr chromium 24	55 Mn manganese 25	56 Fe iron 26	59 Co cobalt 27	59 Ni nickel 28	63.5 Cu copper 29	65 Zn zinc 30	70 Ga gallium 31	73 Ge germanium 32	75 As arsenic 33	79 Se selenium 34	80 Br bromine 35	84 Kr krypton 36	
85 Rb rubidium 37	88 Sr strontium 38	89 Y yttrium 39	91 Zr zirconium 40	93 Nb niobium 41	96 Mo molybdenum 42	[98] Tc technetium 43	101 Ru ruthenium 44	103 Rh rhodium 45	106 Pd palladium 46	108 Ag silver 47	112 Cd cadmium 48	115 In indium 49	119 Sn tin 50	122 Sb antimony 51	128 Te tellurium 52	127 I iodine 53	131 Xe xenon 54	
133 Cs caesium 55	137 Ba barium 56	139 La* lanthanum 57	178 Hf hafnium 72	181 Ta tantalum 73	184 W tungsten 74	186 Re rhenium 75	190 Os osmium 76	192 Ir iridium 77	195 Pt platinum 78	197 Au gold 79	201 Hg mercury 80	204 Tl thallium 81	207 Pb lead 82	209 Bi bismuth 83	[209] Po polonium 84	[210] At astatine 85	[222] Rn radon 86	
[223] Fr francium 87	[226] Ra radium 88	[227] Ac* actinium 89	[267] Rf rutherfordium 104	[270] Db dubnium 105	[269] Sg seaborgium 106	[270] Bh bohrium 107	[270] Hs hassium 108	[278] Mt meitnerium 109	[281] Ds darmstadtium 110	[281] Rg roentgenium 111	[285] Cn copernicium 112	[286] Nh nihonium 113	[289] Fl flerovium 114	[289] Mc moscovium 115	[293] Lv livermorium 116	[293] Ts tennessine 117	[294] Og oganesson 118	

*the Lanthanides (atomic numbers 58-71) and the Actinides (atomic numbers 90-103) have been omitted. Relative atomic masses for Cu and Cl have not been rounded to the nearest whole number.

Keywords

DNA	Genetic material. DNA is a polymer made up of two strands forming a double helix. The DNA makes up chromosomes.
Gene	A gene is a small section of DNA on a chromosome. Each gene codes for a particular sequence of amino acids, which make a protein.
Chromosome	A long coil of DNA. Found in the nucleus.
Heredity	The passing on of characteristics and traits from parents to offspring
Natural selection	The process by which the individuals best adapted to the environment survive and pass on their genes.
Species	Organisms that can produce fertile offspring
Continuous variation	Variation that shows a wide range of intermediate values between two extremes. These can be measured e.g. hand span
Discontinuous variation	Differences between individuals in a characteristic that can only be put into different categories e.g. blood groups
Biodiversity	The variety of plant and animal life in a particular habitat
Variation	Differences between individuals
Extinction	Where there are no more individuals of a species alive

DNA – double helix



DNA discovery

Rosalind Franklin made images of DNA in the 1950s and using her work James Watson and Francis Crick worked out a model for the structure of DNA. This model was then shown to be correct by Maurice Wilkins.

Watson and Crick worked out that in a DNS molecule:

- There are two strands
- The strands are twisted in a double helix
- The strands are held together by bonds between base pairs

Extinction

Changes in the environment (e.g. loss of habitat, climate change, lack of food) can lead to species being less able to survive and reproduce which may lead to extinction. Other factors include: new diseases, new competitors, new predators

KS3 Biology: Inheritance

Variation

Variation in characteristics can be due to the environment, the organisms genetics or a combination of both.

Variation between species and between individuals of the same species can give an advantage. These organisms can then be more successful in their environment which means they survive and breed, passing on their genes which is known as natural selection.

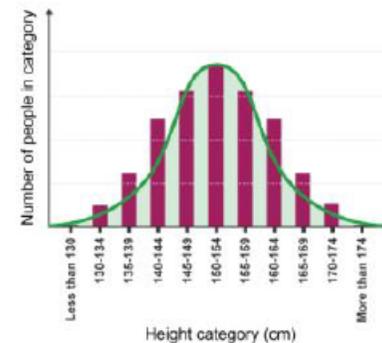


Chromosome



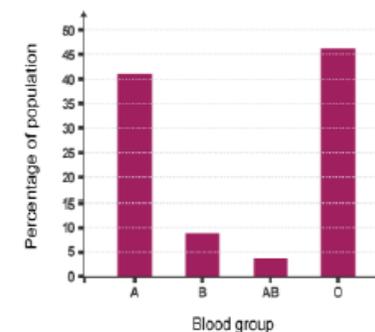
Continuous Variation

Human height is an example. It ranges from the smallest person on Earth to the tallest. Continuous variation shows characteristics that change gradually over time.



Discontinuous Variation

A characteristic of any species with only a limited number of possible values. Eye colour and blood group are examples.



Chromosomes and Genes

DNA molecules are so long and thin, it is coiled into structures called chromosomes. The chromosomes are found in the nucleus of each cell.

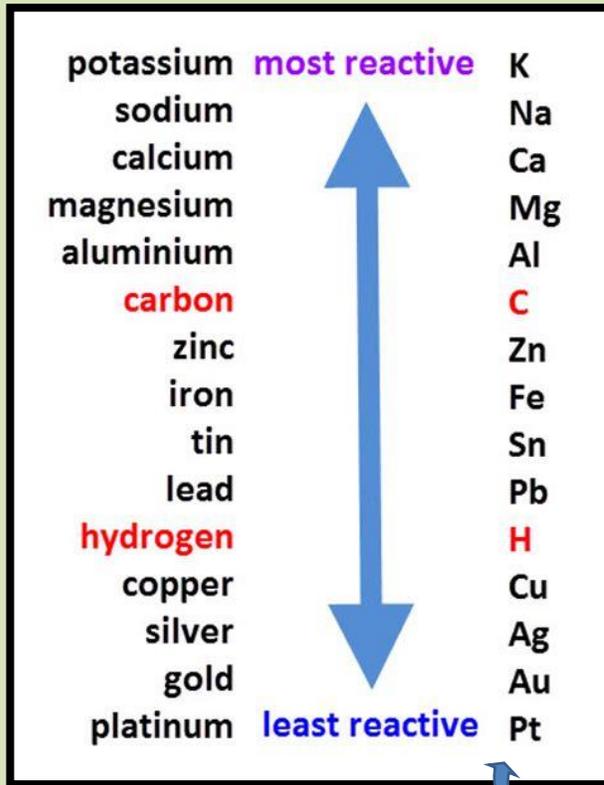
Human body cells each contain 23 pairs of chromosomes, half of which are from each parent. Human gametes (eggs and sperm) each contain 23 chromosomes. When an egg is fertilized by a sperm, it becomes a cell with 23 pairs of chromosomes. This is why children resemble both their parents – half of their chromosomes and DNA come from their mother, and half from their father.

A gene is a section of DNA that is responsible for characteristics such as eye colour. Humans have around 20,000 genes. One copy of all your chromosomes is called your genome.

KS3 Chemistry: Chemical Reactions

Keyword	Definition
Activation Energy	The minimum amount of energy that colliding particles must have for them to react.
Catalyst	A substance that increases the rate of a reaction but is not itself used up.
Combustion	Burning fuel in oxygen.
Displacement	A more reactive metal will displace a less reactive metal from its compound.
Endothermic	Reactions that take in heat.
Exothermic	Reactions that give out heat.
Fuel	Contain hydrocarbons – compounds containing hydrogen and carbon atoms only.
Oxidation	Reaction of other elements in oxygen.
Polymer	Long chain molecules made up of many monomers.
Reactivity Series	List of metals in order of reactivity.
Thermal Decomposition	When a substance is broken down into 2 or more products by heat.

Reactivity Series

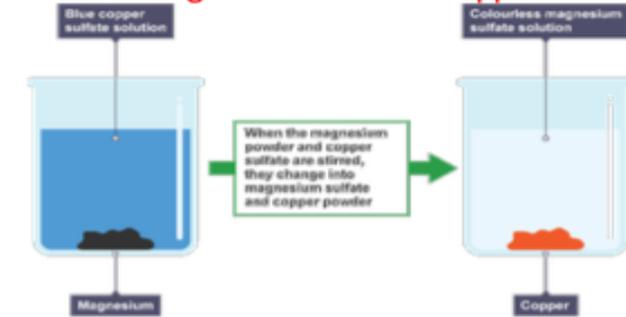


Displacement Reactions

Displacement reactions involve a metal and a compound of a different metal. In displacement reactions, a more reactive metal will displace a less reactive metal from its compound.

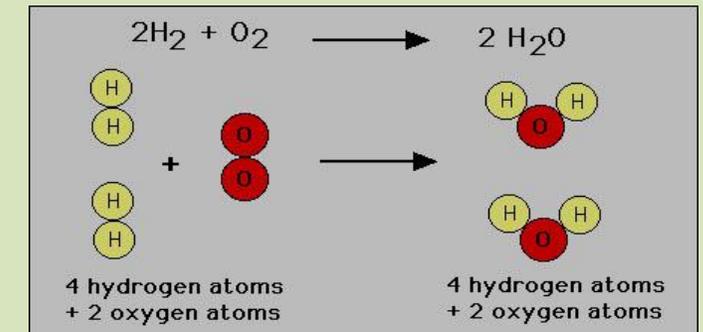
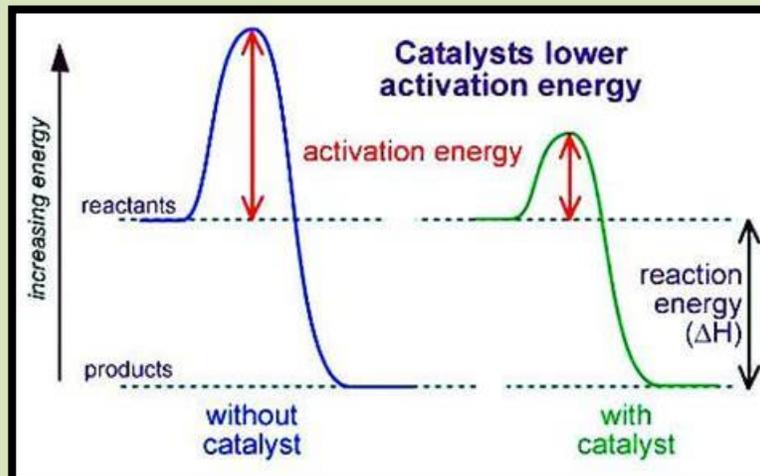


Magnesium is more reactive than copper, so it displaces (pushes out) the copper within the compound.



Metals can be organised according to their reactivity in the reactivity series. A more reactive metal will displace a less reactive one from its compound.

Chemical reactions lose and gain no atoms. They just rearrange, so equations must be balanced to show equal numbers of atoms on each side of the reaction.

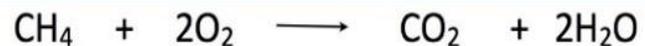


A catalyst speeds up the rate of reaction by reducing the amount of energy needed to get the reaction going.

COMBUSTION (BURNING) OF FOSSIL FUEL

FOSSIL FUEL + OXYGEN → CARBON DIOXIDE + WATER

methane + oxygen → carbon dioxide + water



Endothermic Reactions

In an endothermic reaction, thermal energy is taken in from the surroundings, therefore there is a temperature decrease. Thermal decomposition is an example.

Exothermic Reactions

In an exothermic reaction, thermal energy is given out to the surroundings, therefore there is a temperature increase. Combustion, oxidation and neutralisation reactions are all examples.

Temp increase →



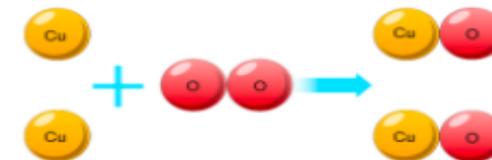
Temp decrease →

Oxidation Reactions

In an oxidation reaction, a substance gains oxygen. Metals and non-metals can take part in oxidation reactions.

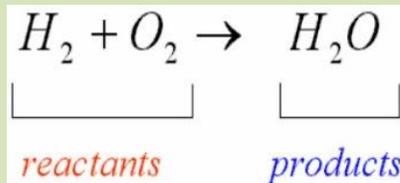
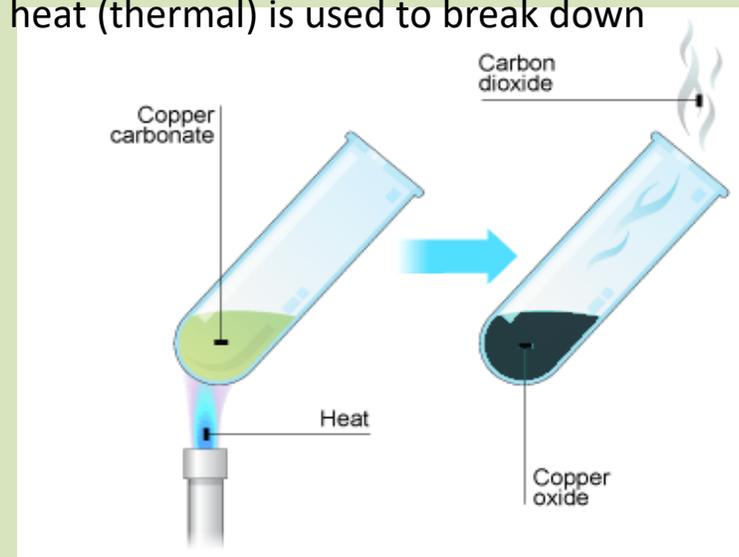
Metals react with oxygen in the air to produce metal oxides. For example, copper reacts with oxygen to produce copper oxide when it is heated in the air.

Copper + Oxygen → Copper Oxide
 $2\text{Cu} + \text{O}_2 \rightarrow 2\text{CuO}$

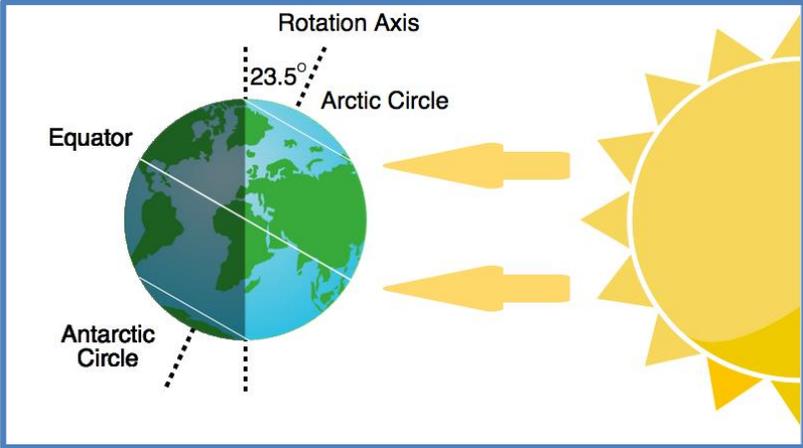


Thermal decomposition is when heat (thermal) is used to break down (decompose) something.

Here –
Copper carbonate is
Decomposing to
Copper oxide and
Carbon dioxide



A chemical reaction is represented as an equation. Reactants are on the left of the arrow. Products are on the right of the arrow.



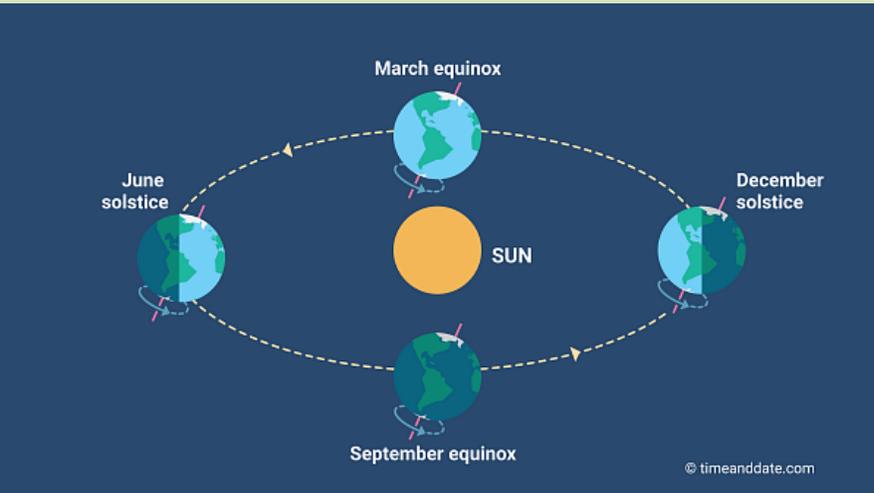
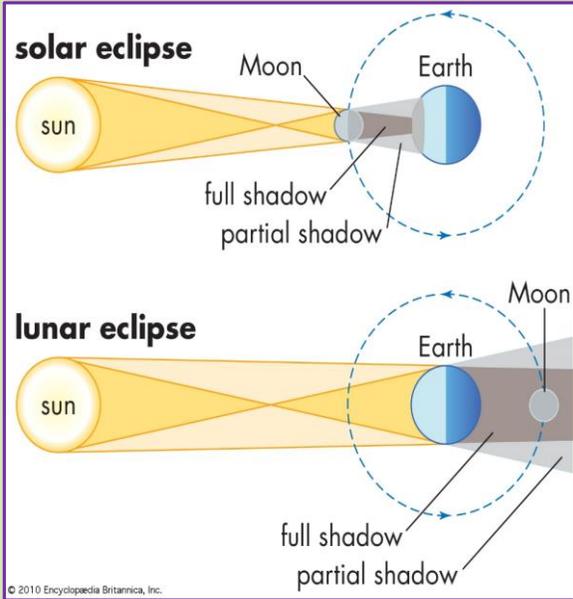
The Earth has day and night because Earth's axis is tilted by 23°
 It takes 24 hours for Earth to spin once on its own axis
 The equator is an invisible line that separates the Northern and Southern hemispheres



Sundials are primitive clocks. They use the length of the shadow created by the moving sun to tell the time.

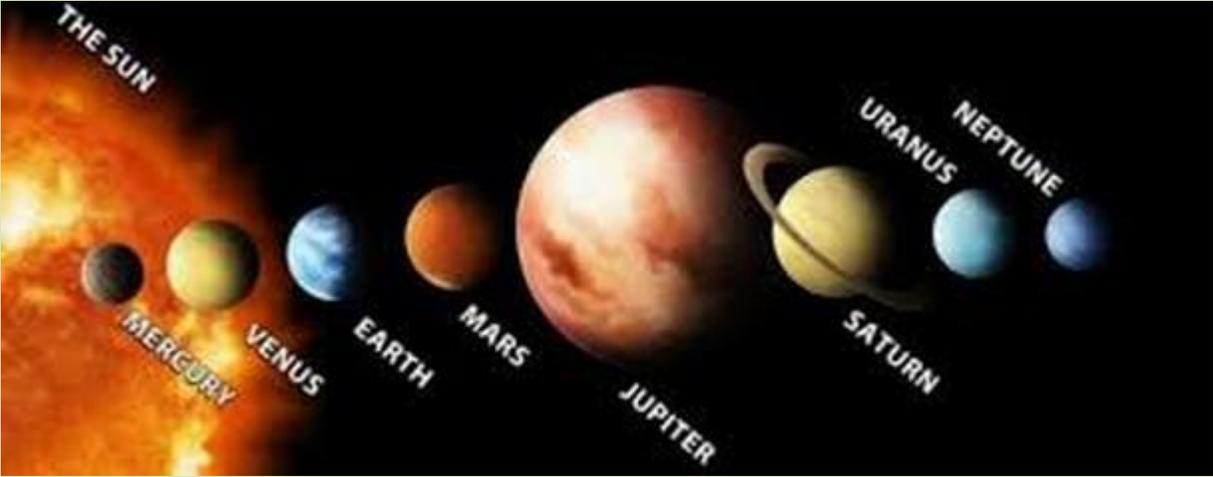
The Earth takes 365.25 days to orbit the Sun. Every 4 years they add the 0.25s together to create an extra day = a Leap Year. When it is winter in the northern hemisphere it is summer in the southern hemisphere

A **solar eclipse** happens when the New Moon moves between Earth and the Sun while a **lunar eclipse** occurs when Earth casts a shadow on the Full Moon.

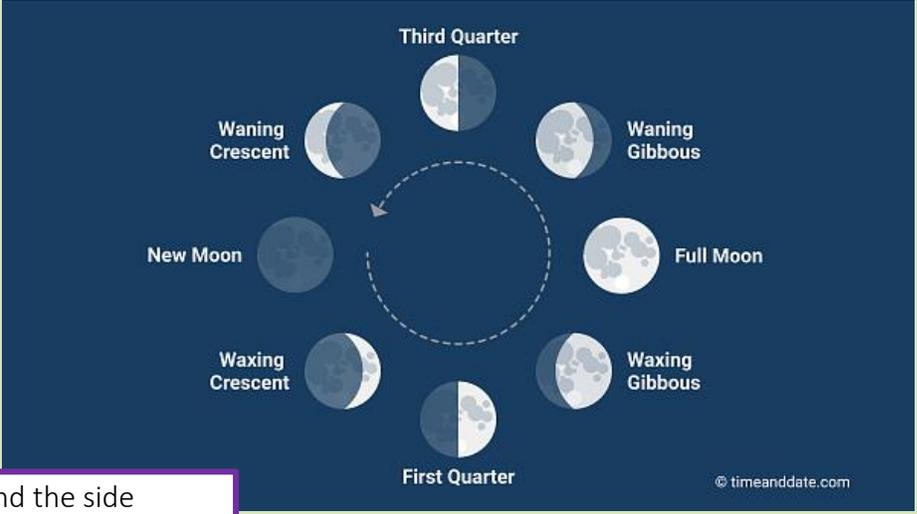


Key Word	Definition
Gravity	A force that attracts objects towards each other. The units are Newtons per kilogram (N/kg)
Mass	Mass The mass of an object is the amount of matter or 'stuff' it contains. Units are kilograms (kg).
Weight	The force of gravity pulling on an object. The units are Newtons (N)
Season	Is a period during the year linked to temperature and daylight
Satellite	A celestial or artificial body orbiting the earth or another planet
Axis	The imaginary line down the centre of the Earth that it spins around
Orbit	The path of a planet or satellite around a central object
Star	A large luminous object in the night sky
Solar System	Consists of the Sun surrounded by planets, comets and asteroids in orbit
Galaxy	a system of millions or billions of stars, together with gas and dust, held together by gravitational attraction
Exoplanet	a planet which orbits a star outside the solar system

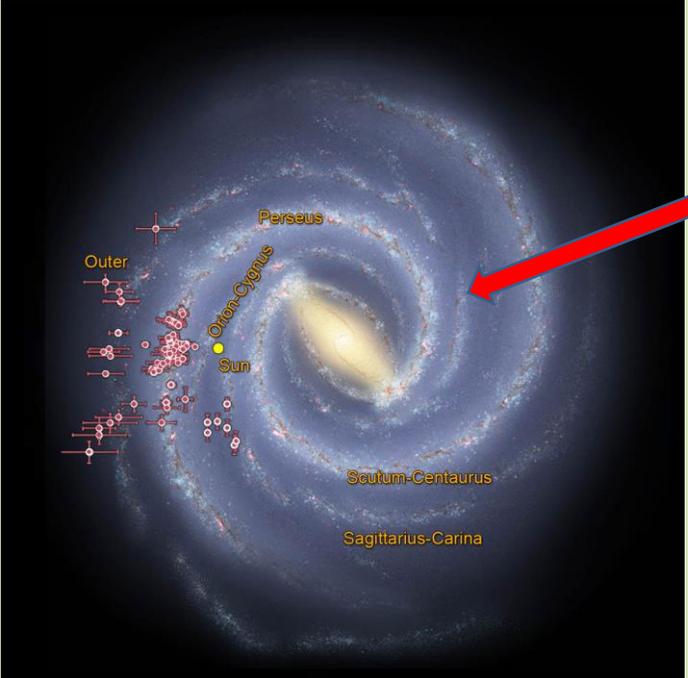
Earth's Solar System consists of 8 planets orbiting the Sun



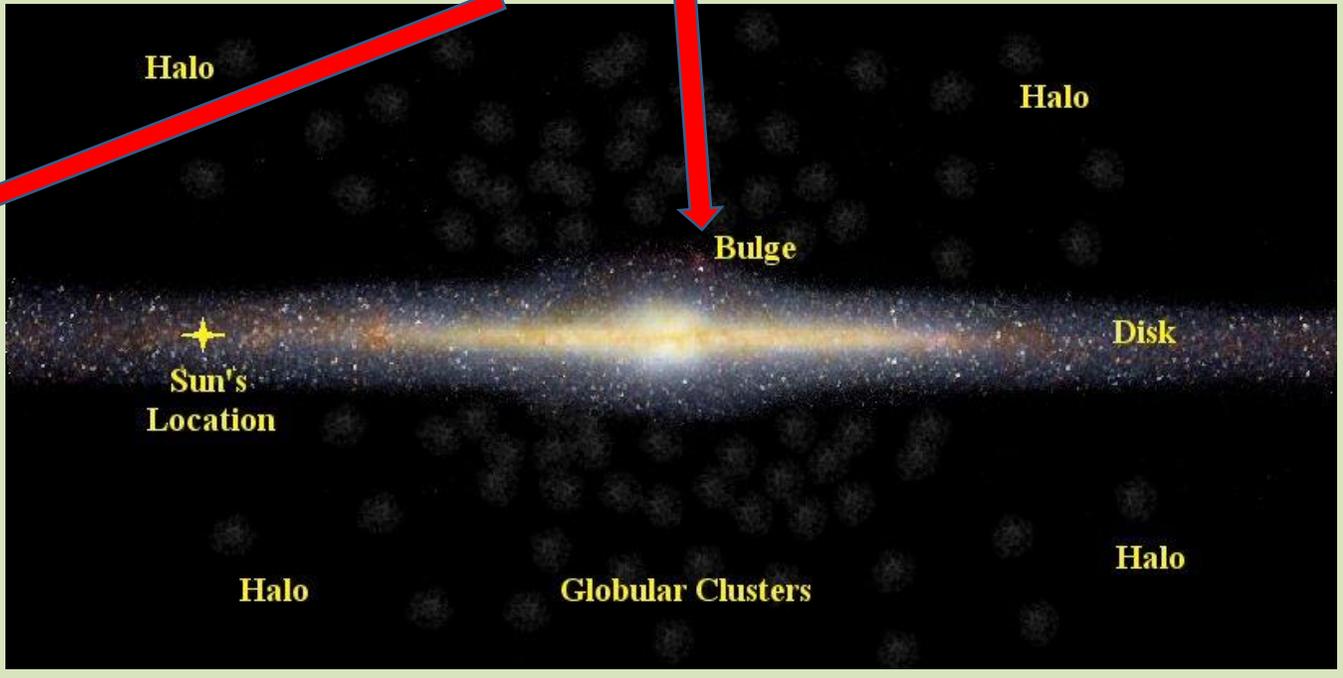
The moon has different "phases" – appears to change shape – because we only see the parts which are lit up by the Sun. It depends on the angle the **Moon** makes with the Sun as viewed from Earth. It takes 28 days for the Moon to orbit the Earth



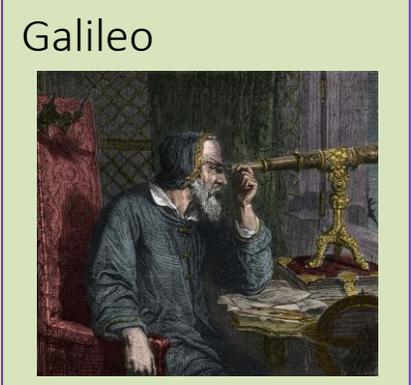
The Galaxy Earth is in is called The Milky way



The Milky way seen from the top and the side



Other Useful Links
<https://www.bbc.co.uk/bitesize/guides/z8wx6sg/revision/5>
<https://spaceplace.nasa.gov/>
<https://www.rmg.co.uk/royal-observatory>



Computational Thinking – Flowcharts and Pseudocode– Term 5

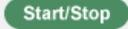
Flowcharts and Pseudocode

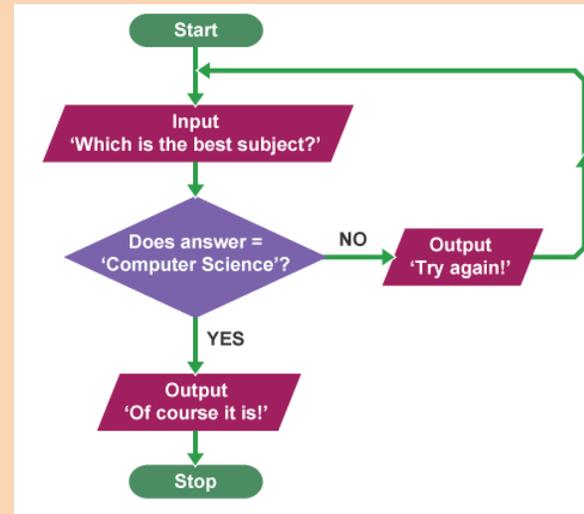
Last term we focused on how to write algorithms based on different problems we may encounter. We did this by looking at two different ways of doing that:

- Flowcharts
- Pseudocode

Flowol gives us a visual representation of how your flowcharts and pseudocode work on an actual problem.

Common flowchart symbols

Name	Symbol	Usage
Start or Stop		The beginning and end points in the sequence.
Process		An instruction or a command.
Decision		A decision, either yes or no.
Input or Output		An input is data received by a computer. An output is a signal or data sent from a computer.
Connector		A jump from one point in the sequence to another.
Direction of flow		Connects the symbols. The arrow shows the direction of flow of instructions.



Flowcharts Example

Common pseudocode notation

There is no strict set of standard **notations** for pseudocode, but some of the most widely recognised are:

- **INPUT** – indicates a user will be inputting something
- **OUTPUT** – indicates that an output will appear on the screen
- **WHILE** – a **loop (iteration)** that has a **condition** at the beginning)
- **FOR** – a counting loop (iteration)
- **REPEAT – UNTIL** – a loop (iteration) that has a condition at the end
- **IF – THEN – ELSE** – a decision (**selection**) in which a choice is made
- any instructions that occur inside a selection or iteration are usually indented

REPEAT

```
REPEAT
  OUTPUT 'What is the best subject you take?'
  INPUT user inputs the best subject they take
  STORE the user's input in the answer variable
  IF answer = 'Computer Science' THEN
    OUTPUT 'Of course it is!'
  ELSE
    OUTPUT 'Try again!'
  UNTIL answer = 'Computer Science'
```

Pseudocode Example

Computational Thinking – Searching Algorithms – Term 6

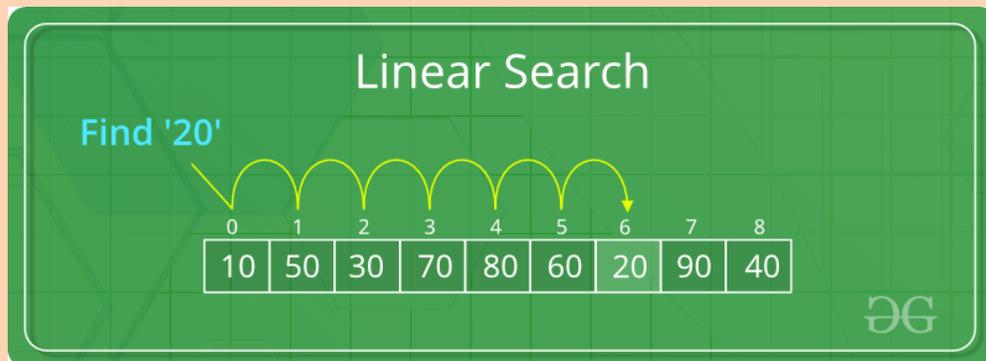
Linear Search

A linear search is the simplest method of searching a data set.

Starting at the beginning of the data set, each item of data is examined until a match is made. Once the item is found, the search ends. If there is no match, the algorithm must deal with this.

A written description algorithm for a linear search might be:

1. Find out the length of the data set.
2. Set counter to 0.
3. Examine value held in the list at the counter position.
4. Check to see if the value at that position matches the value searched for.
5. If it matches, the value is found. Send a message and end the search.
6. If not, increment the counter by 1 and go back to step 3 until there are no more items to search.
7. If all the items have been checked and no match is found, send a message.

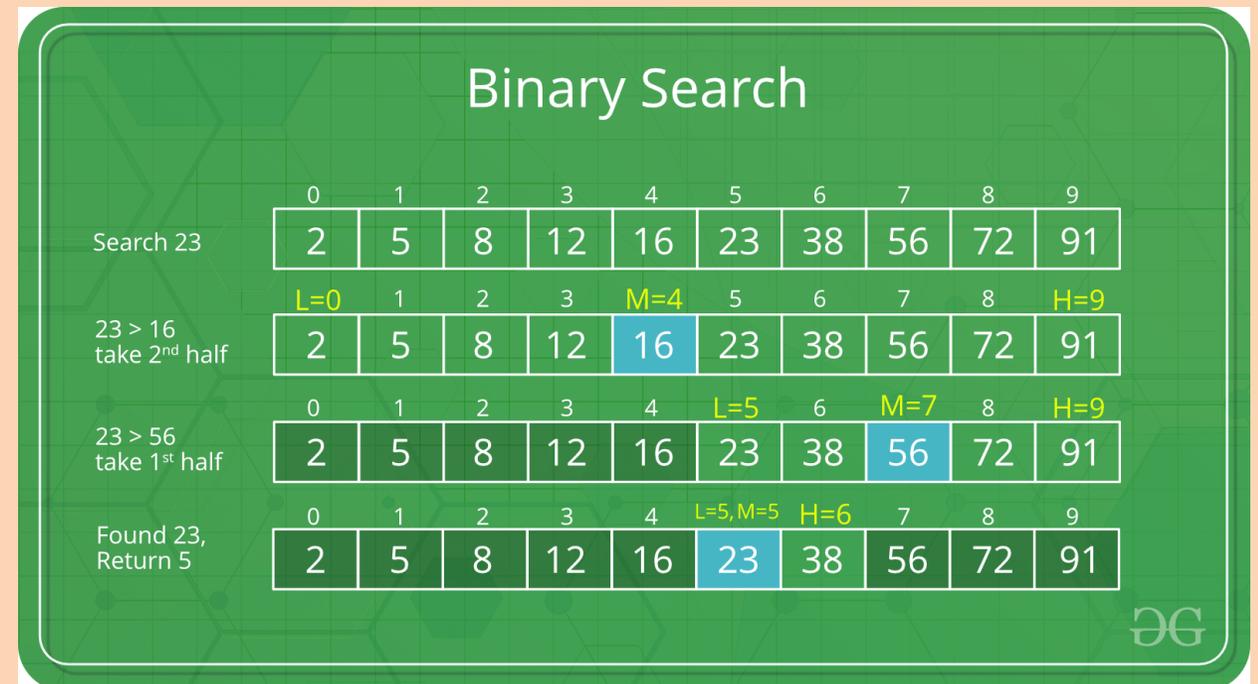


Binary Search

A binary search is an efficient method of searching an ordered list. It will not work on a list that has not been sorted first.

A written description of a binary search algorithm is:

1. Start by setting the counter to the middle position in the list.
2. If the value held there is a match, the search ends and a message is sent.
3. If the value at the midpoint is less than the value to be found, the list is divided in half, the lower half of the list is ignored and the search keeps to the upper half of the list.
4. Otherwise, if the value at the midpoint is greater than the value to be found, the upper half of the list is ignored and the search keeps to the lower half of the list.
5. The search moves to the midpoint of the remaining items. Steps two to four continue until a match is made or there are no more items to be found and a message is sent.



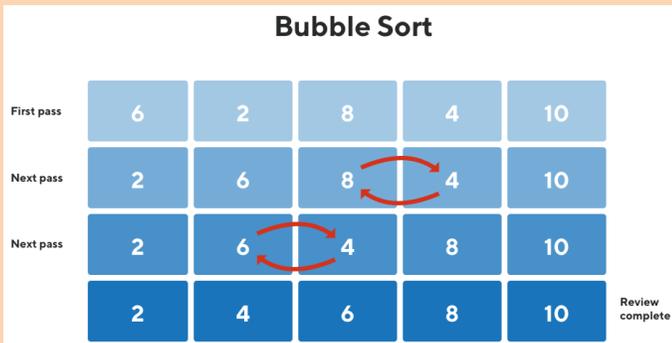
Computational Thinking – Sorting Algorithms – Term 6

Bubble Sort

A bubble sort is the simplest of the sorting algorithms. However, it is an inefficient sort for anything but a small list because of the number of comparisons required.

A written description algorithm of a bubble sort is:

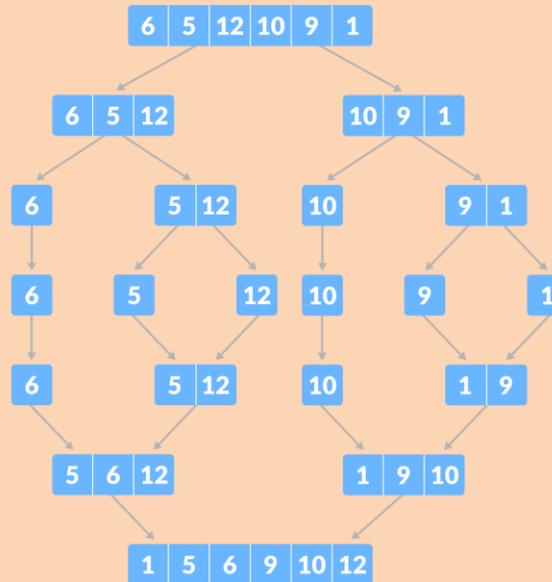
1. **Start at the beginning of the list.**
2. **Compare the first value in the list with the next one up. If the first value is bigger, swap the positions of the two values.**
3. **Move to the second value in the list. Again, compare this value with the next and swap if the value is bigger.**
4. **Keep going until there are no more items to compare. Note - the last item checked in the list is now sorted, so ignore this next time.**
5. **Go back to the start of the list.**
6. **Each run through the list, from start to finish, is known as a pass. The bubble sort continues until a pass is made where no values have been swapped. At this point, the list is sorted.**



Merge Sort

A merge sort is a more complex sort, but also a highly efficient one.

A merge sort uses a technique called divide and conquer. The list is repeatedly divided into two until all the elements are separated individually. Pairs of elements are then compared, placed into order and combined. The process is then repeated until the list is recompiled as a whole.



Insertion Sort

An insertion sort is less complex and efficient than a merge sort, but more efficient than a bubble sort.

An insertion sort compares values in turn, starting with the second value in the list. If this value is greater than the value to the left of it, no changes are made. Otherwise this value is repeatedly moved left until it meets a value that is less than it. The sort process then starts again with the next value. This continues until the end of the list is reached.



THE FRENCH REVOLUTION

Term 5

What caused the French Revolution?



What was the French Revolution?

The French Revolution was a period of time in France when the people overthrew the monarchy and took control of the government.

When did it take place?

The French Revolution lasted 10 years from 1789 to 1799. It began on July 14, 1789 when revolutionaries stormed a prison called the Bastille. The revolution came to an end 1799 when a general named Napoleon overthrew the revolutionary government and established the French Consulate (with Napoleon as leader).

The French Estates

Before the French Revolution, the people of France were divided into social groups called "Estates." The First Estate included the clergy (church leaders), the Second Estate included the nobles, and the Third Estate included the commoners. Most of the people were members of the Third Estate. The Third Estate paid most of the taxes, while the nobility lived lives of luxury and got all the high-ranking jobs.

Revolutionary Government

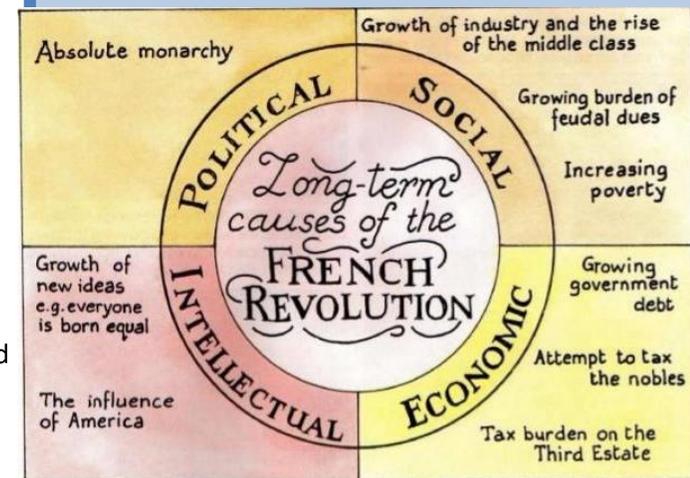
The French Government was in constant turmoil throughout the revolution. At the start of the revolution, representatives from the Third Estate established the National Assembly where they demanded that King Louis XVI give them certain rights. This group soon took control of the country.

Reign of Terror

The darkest period of the French Revolution is called the Reign of Terror which lasted from 1793 to 1794. During this time, a man named Robespierre led the National Convention and the Committee of Public Safety. He wanted to stamp out any opposition to the revolution, so he called for a rule of "Terror." Laws were passed that said anyone suspected of treason could be arrested and executed by guillotine. Thousands of people were executed including Queen Marie Antoinette.

Outcome

The French Revolution completely changed the social and political structure of France. It put an end to the French monarchy, feudalism, and took political power from the Catholic church. It brought new ideas to Europe including liberty and freedom for the commoner as well as the abolishment of slavery and the rights of women. Although the revolution ended with the rise of Napoleon, the ideas and reforms did not die. These new ideas continued to influence Europe and helped to shape many of Europe's modern-day governments



The Napoleonic Wars



Term 5

Why were Britain and France at war (again)?

Find out more about
Napoleon

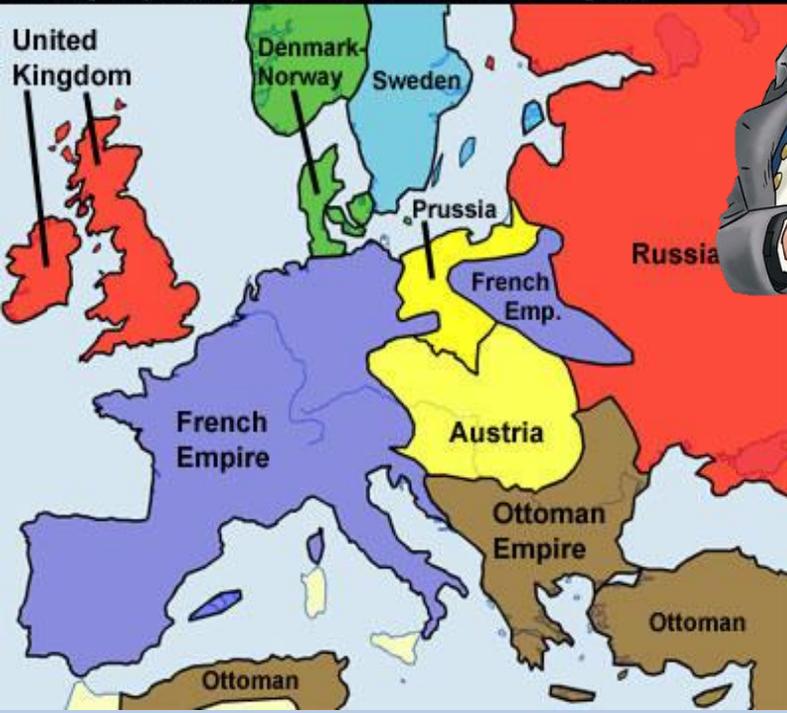


<https://youtu.be/Pd6E38FfuMg>

Between 1799 and 1815 Britain and France were fighting the Napoleonic Wars. This war was actually a series of wars with various European countries involved in the fighting at different times. During the 22 years of the war there were numerous occasions when people expected Britain to be invaded and defeated. In 1803, for example, instructions were issued on how to evacuate people from towns, and local defence groups were set up to fight any invading French army.



Europe (1812): Peak of French Empire



Britain joined other European nations to try and halt the expansion of Napoleon's Empire, the British victory against the French and Spanish fleets at Trafalgar (1805) meant that the threat of a French invasion was removed, but Napoleon was not finally defeated until the Battle of Waterloo in 1815.

Major Events of the Revolution and Napoleonic Era

- 1789** ■ National Assembly forms
 - Fall of the Bastille
 - Declaration of the Rights of Man and of the Citizen
- 1791** ■ Legislative Assembly forms
 - France declares war against Austria and Prussia
- 1792** ■ National Convention forms
 - Monarchy ends
- 1793** ■ Louis XVI executed
 - First coalition forms against France
 - Reign of Terror begins
- 1795** ■ The Directory forms
- 1799** ■ Napoleon seizes power
- 1805** ■ French defeat at Trafalgar, victory at Austerlitz
- 1812** ■ Disastrous Russian campaign
- 1813** ■ Napoleon exiled to Elba
- 1815** ■ Napoleon's Hundred Days
 - French defeat at Waterloo
 - Napoleon exiled to Saint Helena
 - Congress of Vienna

Term 5: Life in the Navy and The Battle of Trafalgar

Life in the navy was very tough, men were away from home for many months at a time, sometimes over a year. The ships were often overcrowded and cramped. Disease was a problem on board, in particular scurvy, which was caused by a lack of vitamins, and lice. With the threat of invasion by France, the Royal Navy had to be explained, a shortage of sailors meant that at times men were forced to join, this was called being **Press-Ganged**.

What food was there on board ship?

Over the centuries this changed little for sailors, whether they were crews of Drake or Nelson. The main rations were **salted beef** or **pork**, **cheese**, **fish**, **ale** and some form of **ship's biscuit**. Men would also be given a **rum** ration each day. The quality of the food deteriorated because of storage problems, lack of ventilation, and poor drainage. It was also affected by the presence of rats and other vermin on board. Biscuits were often filled with maggots and weevils, a type of beetle. Many ships' suppliers were dishonest and sent stores that were already rotten before they were taken on board.

The crew ate in groups of 8 to 12 men known as a 'mess'. These groups remained together throughout a voyage so the men became 'mess-mates'. Each day one man would take his turn as 'duty cook'. It was his responsibility to fetch the day's rations from the hold and to prepare the food for cooking.

Punishments

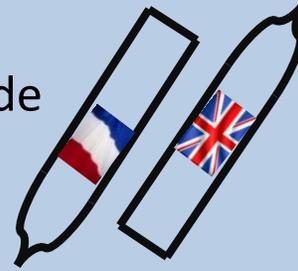
Flogging – Being whipped. This would be given out for serious crimes. The cat-o-nine tails was a special whip that had nine separate strands coming off it.

Running the Gauntlet – sailors would form two lines opposite each other, the criminal would be made to walk down the centre and each man would beat him as he passed them.

Being put in irons – prisoners would be held in handcuffs and chains around the wrist and ankles.

By the beginning of the 19th century, tactics in the Royal Navy had not changed that much since the time of the Spanish Armada.

Broadside



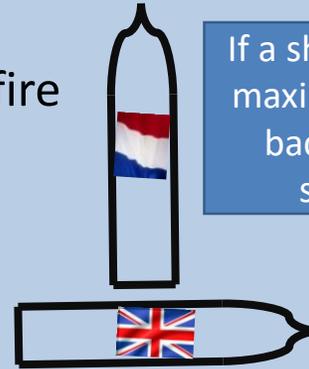
A broadside is when a ship fires all the cannons on one side of the ship at once, it can be very effective.

Line a stern

Line a stern is when all the ships advance in line and follow the lead vessel, this is normally used with a broadside attack.



Raking fire



If a ship can get behind the enemy like this, it can do the maximum damage. Cannon balls will break through the back of the ship and travel almost the entire length, smashing through the ship and the crew inside.

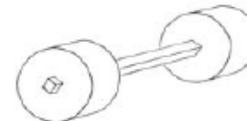
This video shows chain shot being fired at a dead pig!
<https://youtu.be/QJOWKo0bkR4>



Types of Shot



Round Shot
Smashes Hulls



Bar Shot
Breaks Masts

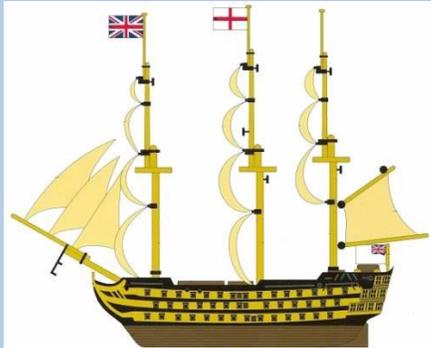


Chain Shot
Brings down rigging



Grape Shot
Kills enemy Sailors

The **Battle of Trafalgar** was a sea battle fought on 21 October 1805 between the navies of France and Spain on one side, and Britain on the other. The battle took place near **Cape Trafalgar** which is in southwest Spain. The battle ended with a clear victory for the British forces. This allowed Britain to become the world's largest sea power for 100 years. The Battle of Trafalgar was the most important sea battle of the 19th century.



Nelson's ship was HMS Victory, today it can be visited at Portsmouth Dockyard



Before the battle

France and Britain had been at war for some time. France had built the strongest army in Europe, and controlled much of the land. Because it was an island, Britain had built a strong navy, and had used this to try to prevent French ships from leaving their ports. Because Napoleon Bonaparte wanted to invade Britain, he knew that he would have to sink the British navy first, otherwise it would be able to prevent his army from landing. The admiral in charge of the British fleet was Lord Horatio Nelson. He had become famous in Britain for his victories over the French, such as at the Battle of the Nile in 1798.

But the French navy managed to avoid Nelson's fleet and leave Toulon during a storm and met up with a group of Spanish ships. Spain at the time was an ally of France. This small fleet first sailed to the West Indies, then returned across the Atlantic Ocean to the Spanish port of Cadiz. They wanted to join up with more French ships to make a stronger fleet. The British had chased them both ways across the ocean.

The battle

The French then learned that some British ships had been seen in Gibraltar, and thought this meant that the British fleet was not as strong as it had been before. So they decided that this was the best time to leave Cadiz.

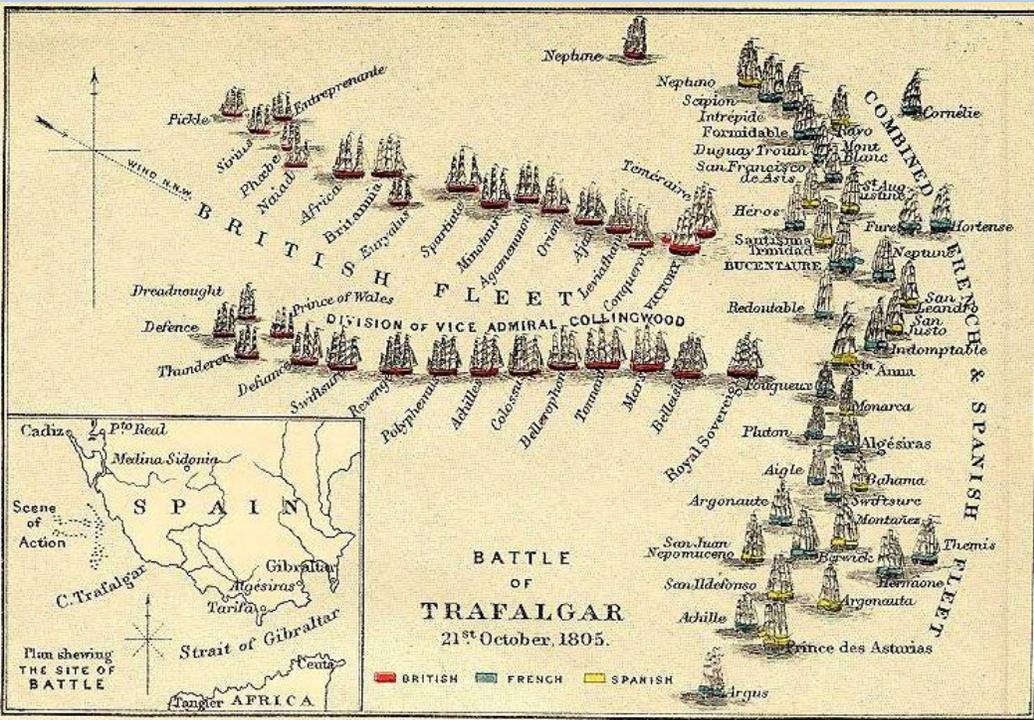
The next day, the 33 ships of the French and Spanish fleet were met by the 27 ships of the British. Nelson had put his ships into two lines. Before the battle started, he sent a message which was to become famous: *England expects that every man will do his duty.* The two British lines sailed through the French and Spanish line, splitting it, and was able to cause great damage to its ships.

However, Admiral Nelson, on board his ship, *HMS Victory*, was hit by a musket bullet fired by a sniper from the French ship *Redoutable*. The bullet entered via his shoulder, went into his lung and lodged in his spine. He was taken below the deck and died later, shortly before 4.30pm, as the battle died down. The French and Spanish had lost 22 ships, the British lost none.

After the battle

Because France was unable to invade Britain, British soldiers were able to fight on the European continent together with the armies of other countries against the armies of Napoleon. In the end, Napoleon was finally defeated, in 1815, at the Battle of Waterloo. With control of the seas, Britain was able to build up a large empire during the years that followed and its navy was the world's largest for over a hundred years.

Nelson's body was brought back to Great Britain and he was given a hero's funeral. In 1843, the famous Trafalgar Square and Nelson's Column were built in London to honour him.



THE INDUSTRIAL REVOLUTION



Year 8 Term 6

Industry	Processing raw material into manufactured goods in factories.
Economy	The system of how money is used within a particular country
Agriculture	The process of producing food by farming plants or raising animals
Cottage Industry	Before the industrial revolution: production in people's homes on a small scale. Slow and inefficient but goods were hand-crafted and unique
Poverty	The lack of basic human needs such as clean water, nutrition, healthcare, education and shelter
Sanitation	Sanitation is the system that disposes of human waste
Cholera	Infectious disease caught from infected water supplies. Causes severe vomiting, diarrhoea and often death
Urban Slums	Housing where people lack basic necessities to sustain a safe and healthy lifestyle.

GROWTH of CAPITALISM
Introduced by Adam Smith it allowed entrepreneurs to establish businesses.

AGRICULTURAL REVOLUTION
Led to increased food production which caused populations (and workforces) to grow.

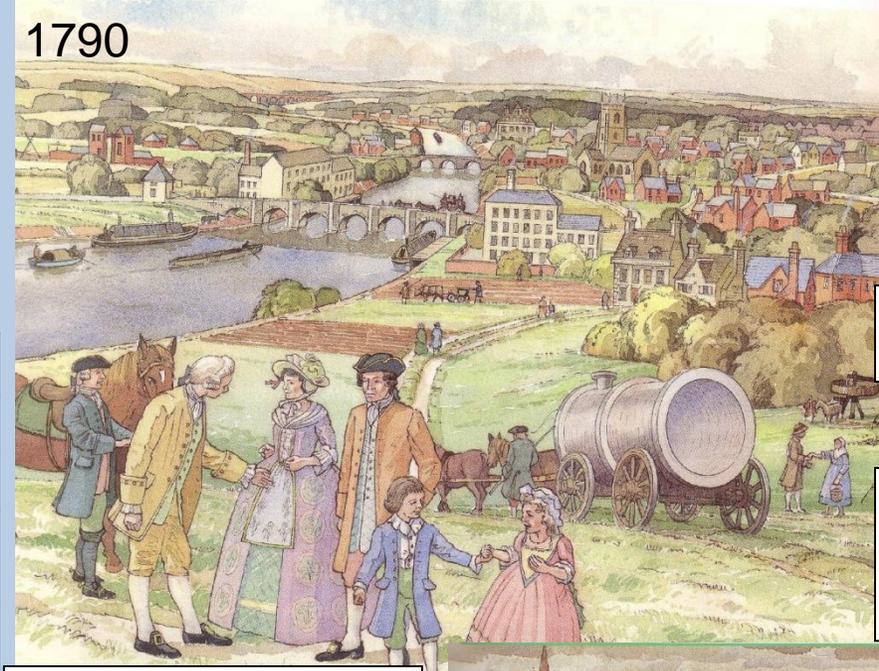
CAUSES

Necessary to power the new machinery of industrialization.
COAL MINING

Helped countries (such as England) to bring in raw materials for the industrial process.
EUROPEAN IMPERIALISM

The **industrial revolution** was a time of great change in Britain between 1750 and 1900. Britain's main source of income changed from **agricultural** to **industrial**.

How many differences can you spot from 1790 – 1900?



1790

Population increased from 10 – million to 40 million.

Improved transport: steam boats, canals and railway network over Europe.

Access to new materials: Iron and steel

People migrate from villages to towns

New energy source coal led to steam engine, internal combustion engine, electricity

With the growth of the British Empire, communication improves.

Move away from domestic system (goods made in the home) to the factory system (mass production)

Improved public health, free education for all under 12 and votes for all men by 1900.

Invention of new machines, such as the spinning Jenny and power loom

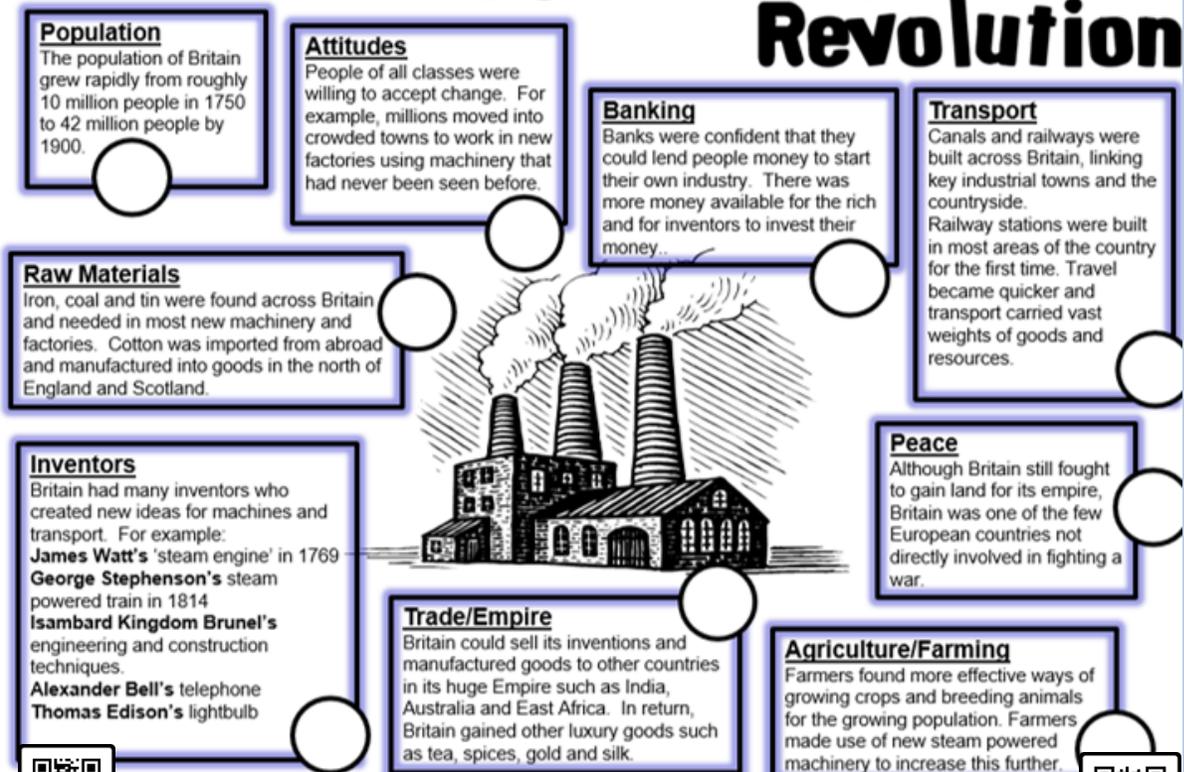


1900

Key Developments in the Industrial Revolution

1708 Jethro Tull's mechanical sower led to large-scale planting in rows, for easier cultivation between the rows.	1709 Abraham Darby used coke to smelt iron ore , replacing wood and charcoal as fuel.	1712 Thomas Newcomen's steam engine . Kept deep coal mines clear of water. New significant, reliable power source.	1733 John Kay's flying shuttle invented, this sped up hand weaving of cloth.	1761 James Brindley's Canal opens. Barges carried coal from Worsley to Manchester	1765 James Hargreaves invented the Spinning Jenny , automated an aspect of weaving cloth.	1779 First steam powered cotton mills developed. Crompton's "mule" fully automating the weaving process.	1793- 1803 Thomas Telford built his two great iron aqueducts , over the Dee and the Cierog valleys.	1801 Robert Trevithick demonstrated steam locomotive .	1811-15 Luddite riots : labourers attacked factories and broke up the machines they feared would replace them
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Causes of the Industrial Revolution



Factory working conditions

Long working hours: normally 12-14 hours a day (extra time required during busy periods)

Low wages: male workers average 15 shillings (75p) a week, women and children paid much less, with children earning three shillings (15p). Employers preferred to employ women and children.

Cruel discipline: frequent "strapping" (hitting with a leather strap). Other punishments included nailing children's ears to the table, and dowsing them in water butts to keep them awake.

Accidents: forcing children to crawl into dangerous, unguarded machinery led to many accidents and deaths.

Health: The air was full of dust, which led to chest and lung diseases. Loud machinery damaged workers' hearing.

EDMUND CARTWRIGHT
Built the first power loom in 1785, which mechanized the weaving process of the textile industry.

TEXTILE INDUSTRY
Involved the creation of cloth and clothing in large factories. New inventions in the textile industry sped up production.

CONDITIONS of the WORKING-CLASS

- DANGEROUS WORK CONDITIONS**
- LONG HOURS OF WORK**
- POOR LIVING CONDITIONS**
- LOW-PAYING JOBS**

CHILD LABOR
Boys and girls as young as 5 years old worked in factories and mines.

Pay for the working class was so low, that most families needed their children to work and contribute to the costs of daily life.

AVERAGE WEEKLY PAY IN ENGLAND

- MEN** 10 Shillings
- WOMEN** 5 Shillings
- CHILDREN** 1 Shilling

IMPACTS

- RIGHTS FOR WORKERS
- CHILD LABOR LAWS
- URBANIZATION
- BIRTH OF SOCIALISM
- NEW INVENTIONS
- LABOR UNIONS



Political world map

Types of employment

Informal Employment

A person who is informally employed does not receive a regular wage. They work when they need to or feel like it.

Sometimes there are no deductions (e.g. tax) made from their earnings but if they do not work for any reason, they receive no payment.

Formal Employment

Whereas, someone who is formally employed is contracted to work and will receive sick pay and holiday pay. This means they receive more regular work, but have deductions through taxes.

Types of Industry

Primary jobs – collect or produce natural resources e.g. fishing, mining

Secondary jobs – make or manufacture things e.g. building, car assembly

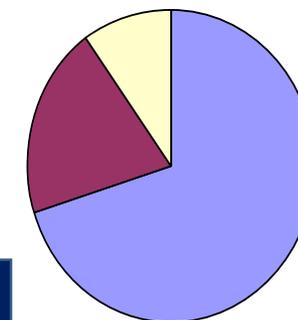
Tertiary jobs – provide a service e.g. jobs in health, education, retail

Quaternary jobs – high-tech service industry e.g. scientific research, advisory service

Changes in jobs through time

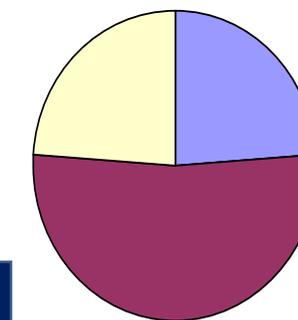
Normally we can tell how developed a country is by what employment structure you find there. An LIC (low income country) will generally have more primary jobs and a HIC (high income country) will tend to have more tertiary and even quaternary jobs. Take a look at the pie charts to the right. These show how the job structures change in the UK from 1700 to 2004. Notice how primary jobs decrease as we move through time. In the 1900s, manufacturing takes over (during the industrial revolution) and allows the UK to develop. Now in modern days, we have a service driven economy and find more tertiary jobs.

Industry 1700



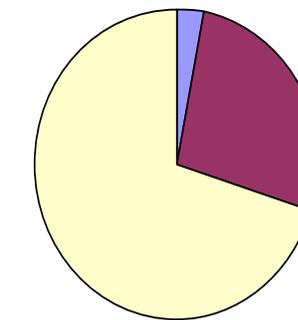
■ Primary
■ Secondary
■ Tertiary

Industry 1900



■ Primary
■ Secondary
■ Tertiary

Industry 2004



■ Primary
■ Secondary
■ Tertiary

What is Globalisation?

Globalisation is the process by which the world is becoming increasingly interconnected. We now communicate, trade, travel and share each other's cultures more easily around the world.

Key Words

Globalisation, informal, formal jobs, primary, secondary, tertiary, quaternary, HIC, LIC, industry, Trickle down effect, FDI Foreign direct investment.



Benefits of globalisation

Free Trade – reduces barriers such as tariffs, taxes and subsidies between countries.

Free Trade promotes growth and creates jobs – lower prices for consumers

Poor countries benefit from FDI (foreign direct investment)

Sharing technology can help LICs to progress

Boots economies

Costs of Globalisation

There isn't a trickle down effect from higher income countries

Lots of jobs in LICs are taken by low cost labour, poor wages, poor working conditions

It can cause a dependence on HIC

Creates a monopoly – big companies begin to dominate the market e.g. Amazon, Apple, etc

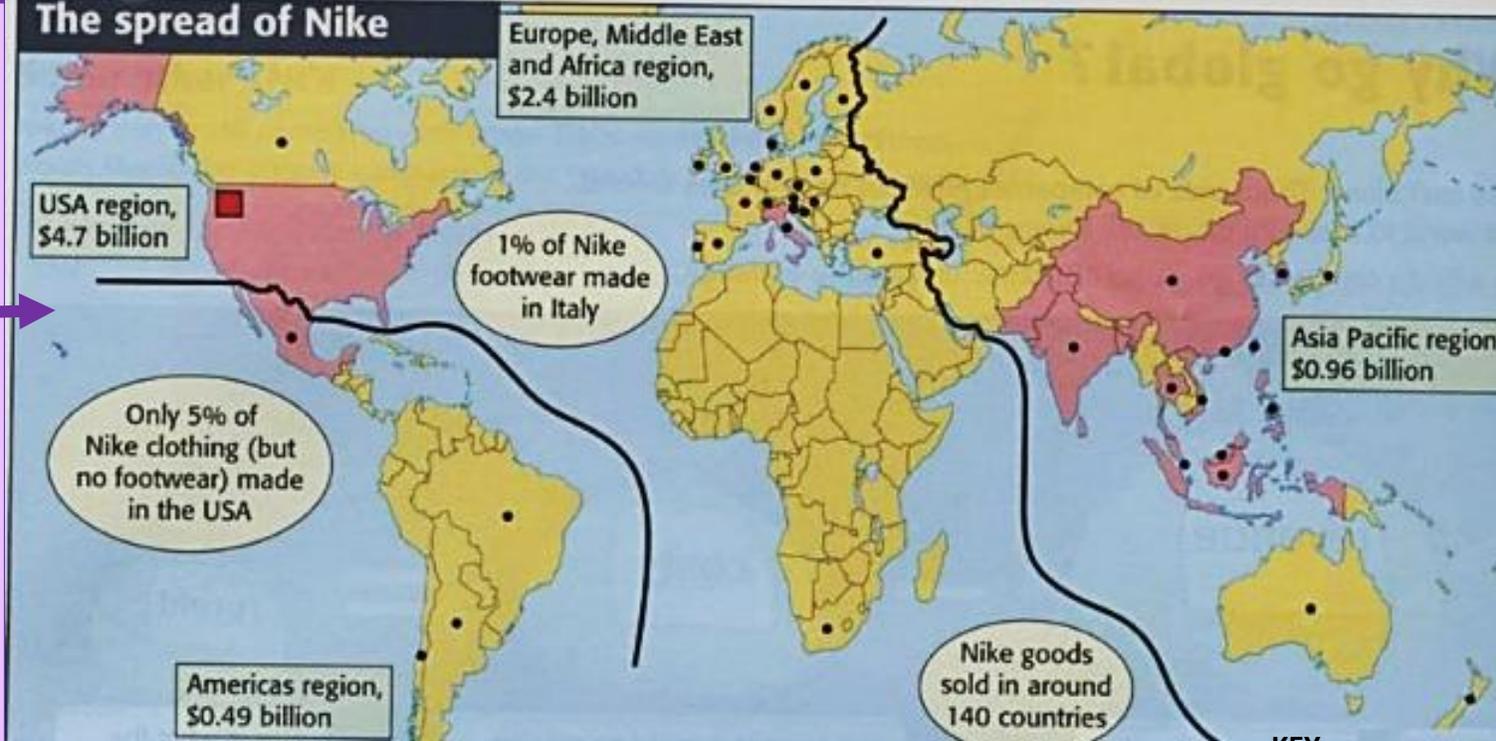
Still trade limitations/ barriers

Transnational Corporations – TNCs

A **Transnational Corporation** is a company which operates in many different countries. It may manufacture its products in one country, but sell its products in another. One good example of this is the sporting company, Nike. Nike manufacture many of their sporting goods in Asia and sell a lot of their products in Europe, but their headquarters are in USA. Take a look at the map to see which countries Nike operates in.

Nike produces many of its goods in LICs (Low Income Countries) but sells many of its products in HICs (High Income Countries). This is because people in HICs have more **disposable income** to spend on buying commodities. **TNCs** tend to manufacture their goods in LICs where they do not need to pay the workers as much money and so saves the company money.

Nike have been criticised for their treatment of their workers in LICs, as many are underpaid and work long hours. Nike are not the only TNC who have been reported for exploiting their workers, many TNCs regularly do it, however if they start paying their workers fairly, they will receive less profits.



Positive impacts of TNCs

They provide a vital source of FDI (Foreign Direct Investment)

Provide employment, sometimes reduce unemployment which was caused by mechanisation in agriculture

They can improve local infrastructure- such as roads bridges- improving local welfare

Improve the local economy

increase local skills and teach new skills.

Negative Impacts of TNCs

TNC create lethal competition for local business – create a lot of upset with locals

Often be high polluters- releasing lots of Greenhouse gases due to factories relying on fossil fuels.

They can often exploit cheap, flexible labour often in sweat shops or in very poor working conditions

Little portion for promotion or to increase wages

Little of the Profit made from TNC will remain in the countries used for manufacturing.

TNCs and the environment

- TNC activities generate more than half of the greenhouse gases emitted by the industrial sectors with the greatest impact on global warming.
- TNCs control 50 percent of all oil extraction and refining, and a similar proportion of the extraction, refining, and marketing of gas and coal.
- TNCs have virtually exclusive control of the production and use of ozone-destroying chlorofluorocarbons (CFCs) and related compounds.

CASE STUDY: Shell Nigeria

Shell is a massive TNC that operates in many countries around the world. Extracting oil is a primary job, the refining of oil is a secondary job and they sell the final job which is a tertiary service. Shell's Nigeria operations are concentrated in the Niger Delta in a mining area of around 31,000sq km.

They have more than 6,000km of pipelines, 87 flow stations, 8 gas plants. This has led to large scale deforestations, environmental mining leading to the destruction of habitats, biodiversity.

KEY

- Nike Headquarters
- Countries Nike has set up a ranch
- Main countries for manufacturing Nike Goods
- Shows sales for year 2000

Key words

TNCs, exploitation, HIC, LIC
Greenhouse gases, infrastructure, FDI

Globalisation and Climate Change

As the world is becoming increasingly connected, we are able to import products from far away. This could be anything, from food to electronics. However, this generally results in increased emissions of greenhouse gasses.

This can be seen in Norfolk, which is a county in the East Anglia area of England. It has a large coastline with many settlements along it. Much of this coastline is under threat from sea-level rise. Norfolk has already suffered from some major flooding in recent years and it is only set to get worse.



Part of the reason why sea levels are rising is due to the rise in carbon dioxide and other greenhouse gasses in our atmosphere. One cause of this **food miles** - the distance your food travels from its source to your plate. As many foods are imported, this is causing sea levels to rise through ice caps melting and thermal expansion. Thermal expansion is where the volume of water increases due to heat expanding particles which in turn rises the level of the sea which could cause flooding. Many kiwi fruits are grown in New Zealand but are sold in the UK. This means that the fruit have travelled over 11,000 miles for us to eat. Think of all the greenhouse gasses that were released for us to eat one fruit! One solution to this is to buy fruit sourced more locally where the food miles are shorter and therefore releases less CO2 into the atmosphere.

Causes of the floods	Effects of the floods
<p>Many fruits which are sold in the UK are grown in countries far away. For example, most kiwi fruits are grown in New Zealand and shipped over 11,000 miles. This emits a lot of CO2</p>	<p>Research commissioned by Natural England, showed that 25 square miles of Norfolk, including six villages, could be lost to the sea within a century.</p>
<p>Scientists in over 23 different countries have concluded that humans have caused all or most of the current global warming</p>	<p>The one metre sea level rise predicted by climate change scientists this century, would put £130 billion worth of coastal property at risk of flooding.</p>
<p>Factories, deforestation, and pollution have greatly increased greenhouse gases that help trap heat near Earth's surface.</p>	<p>Hundreds of homes destroyed and swathes of the counties' heritage wiped out.</p>
<p>Climate change is causing sea-level rise, experts predict that the sea could rise between 18 to 59 centimetres by 2100. Over hundred million people live within 1 metre of sea level.</p>	<p>A man living on the fastest eroding section of coast around Happisburgh, said: "Property value has decreased by as much as 30 per cent. It is ruining people's lives.</p>



Mapping Disease

As geographers we have the skills to map diseases which is vitally important into looking how diseases spread and therefore how we can reduce the impacts and help predict and reduce the severity of future **epidemic** and **pandemics**.

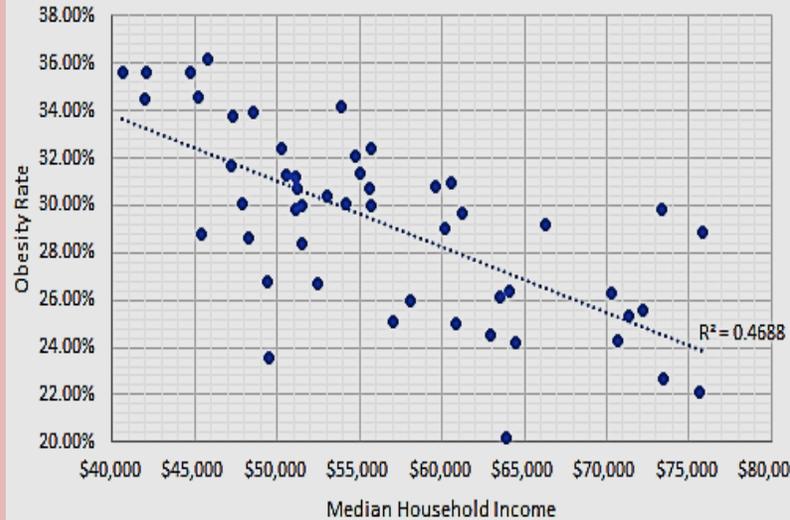
Mapping the Spread of Cholera

one of the first geographers to map disease was a man called Jon Snow who was a Doctor in London in 1854. In early September 1854 there was a cholera outbreak in Soho which was killing around 500 people a week. Snow realised he wasn't catching the disease of his sick patients and the bacteria was found in their gut, suggesting it was caused by food or drink. Snow mapped the deaths and plotted them on a map. The **DISTRIBUTION** of the deaths show the pump on Broad Street (now known as Broadwick street) was the cause.

As a result of snows investigation the handle was removed from that pump and the number of deaths from Cholera declined rapidly. His work as geographer made him a pioneer in **epidemiology** (Science of disease).

Geographies of Health and Disease

US Obesity Rate vs Median Household Income (2015)



Keywords

Endemic-- a disease that exists permanently in a population/ geographical area

Epidemic- A disease outbreak that spreads quickly through the population of a geographical area

Pandemic- An epidemic which spreads worldwide e.g. Coronavirus

World Health Organisation- A specialised agency of the UN responsible for international public health

Zoonotic disease- infectious disease spread from animals to humans

Infectious disease- A disease spread by parasites, bacteria, viruses or fungi

Contagious disease- disease which spread by direct or indirect contact between people

Communicable disease- An infectious disease which spreads from host to host

Vaccine- a substance which encourages the body immune system to protect from that disease in the future.

Disease of Affluence

All countries are at risk of new diseases but especially those more economically advanced due to **globalisation**.

Covid 19 showed us the rapid way in which diseases can spread across countries and continents. Nowadays, many new diseases are thought to be **zoonotic**, this is because:

- lots of the world's population live in closer proximity to animals,
- wild spaces are increasingly used by humans
- Goods are transported internationally
- Livestock is moved across borders
- people regularly travel worldwide for business and tourism

Disease of Poverty

Obesity is one of the leading health problems in children across North America and Europe. This is largely attributed to access to food and a healthy lifestyle, which is largely dependent on household income (wealth).

Those who live in poverty eat the cheapest food available to them, often in cans, with minimal fresh fruit or vegetables because it is expensive. This exacerbates the problem leading to high obesity rates and cardiovascular (heart) disease.

Factors increasing the risk of disease

- Lack of access to clean water
- Malnourished population
- Lack of healthcare availability
- Emergency migration to crowded temporary accommodation
- Lack of power/ energy infrastructure
- Quality of healthcare providers
- Underlying health conditions
- Food insecurity



MALARIA – CASE STUDY

Facts about Malaria

- 100 countries still suffer with malaria
- 216 million: people who are infected with Malaria each year
- 655,000 people died from Malaria in 2010.
- 22%: childhood deaths in Africa are caused by Malaria

Background

Of all the infectious diseases that have plagued human history, Malaria has had the greatest toll on human life. It is estimated that over 1 million people die from the disease each year. Malaria, so named by the Romans because they believed it arose from bad (mala) air (aire) floating up from nearby swamps, is in fact caused by a parasite, which is transmitted by mosquitos.

Malaria infects people of all age groups; however, those who lack immunity – young children, pregnant women, and people living with HIV/AIDS – are more vulnerable to the disease.

Who is at risk?

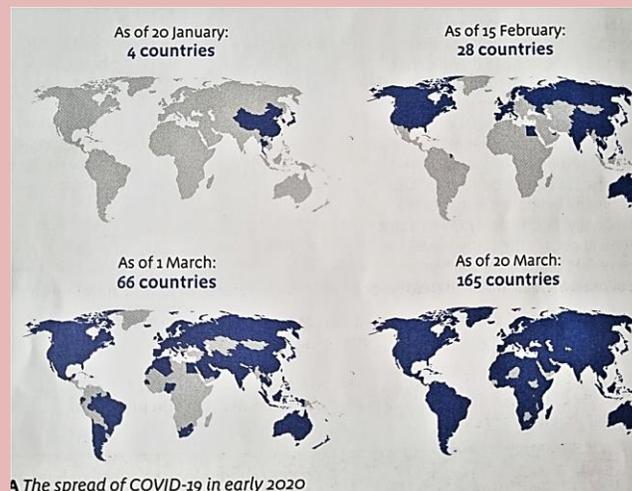
Prior to the 1930's malaria was globally widespread, occurring across most of America and Europe. However with the help of , DDT, Quinine tablets and land use change, malaria has declined or become locally eradicated in most of the 'developed' world. . There still remains approximately half of the world's population, 3.5 billion people, at risk from Malaria. Today 90% of Malaria cases occur within sub-Saharan Africa,.

The economic cost of Malaria

. Countries with malaria on average see their GDP decline 1.3% annually. This leaves little money for prevention and treatment to be provided to the population, creating a downward spiral of poverty and ill-health.

Working to eradicate Malaria

There has been significant worldwide contributions to help eradicate Malaria with the mosquito nets, trailing new medications and vaccinations in the developing world, educating populations who suffer with malaria. Global charity contributions such as Comic Relief, and Save The Children .



Geographies of Health and Disease CASE STUDIES

Pre – covid smog vs Post covid smog



COVID- 19 INITIAL OUT-BREAK

Back ground

The first cases of Covid-19 were in Wuhan, China at the end of 2019. By the 20th January there confirmed cases In four countries and by 20th March there were 165 countries with reported cases.

Social Impacts

Different countries dealt with Covid-19 outbreak in different ways. Some governments enforced full lockdowns whilst others were allowed to leave for essential travel. Some enforced this using the army, police Patrol, whilst others relied on goodwill,. In most countries schools closed for several months and teaching became remote at home (on Classcharts!)

This transformed the lives of everyday people, working became remote at home, socialising was via zoom calls and quizzes rather than meeting up in person. Many people were only allowed out for 1hr a day for exercise and to go food shopping.

Economic impacts

In the UK the number of people claiming unemployment benefits between June and September 2020 increased from 1.3 million to 1.6 million. Many businesses closed as they could not operate in lockdown conditions. Whilst governments gave money to business to pay their workers this was often not a full wage and people were living on a much smaller income. This had a negative effect on the UK economy.

Environmental impacts

As travel was restricted during the initial spread of Covid-19 ,any countries noted a drop in CO2 emissions and cleaner air in previously polluted cities.

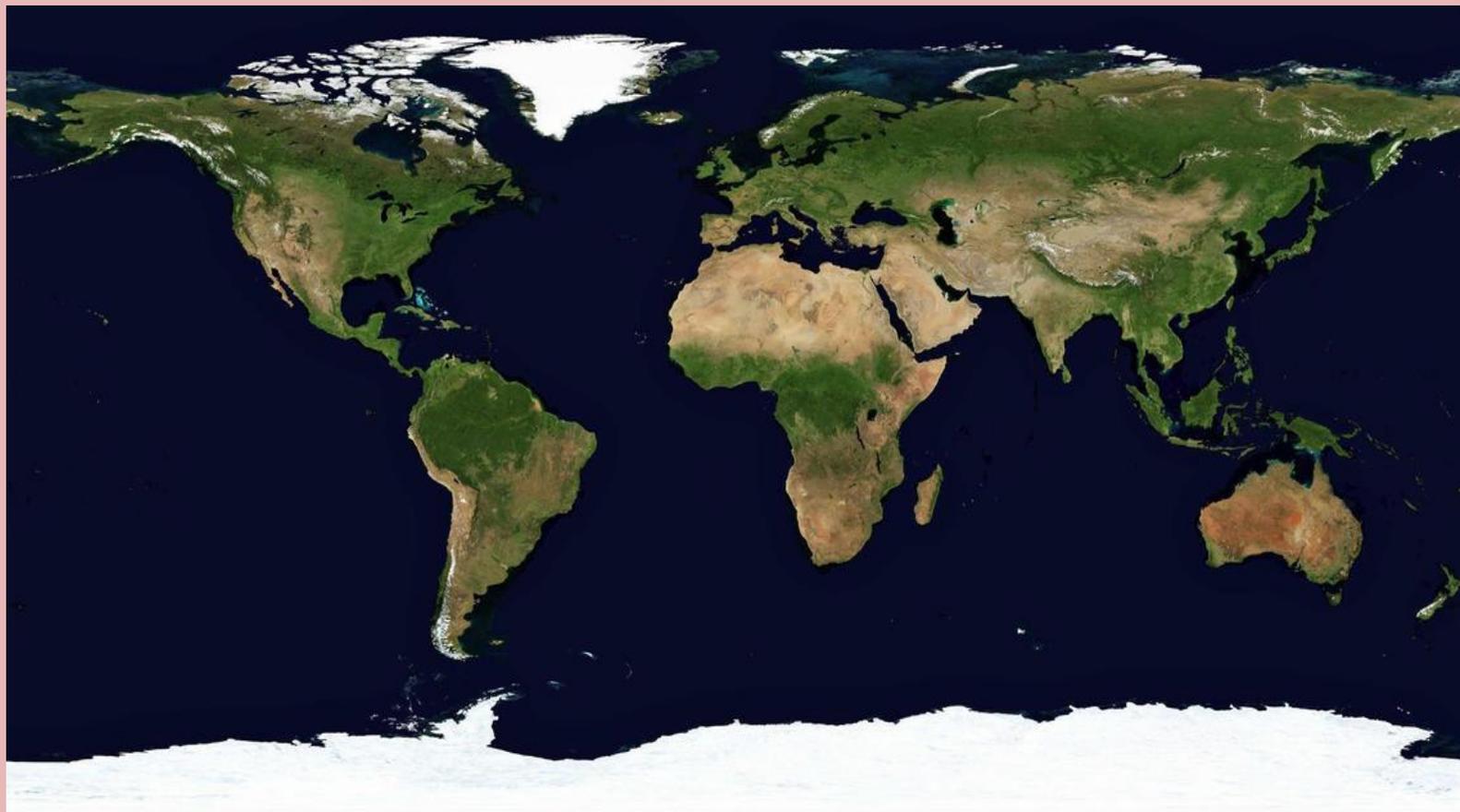
There was also negative impacts such as the increased use of disposable plastics from PPE uniform, masks and gloves all of which are polluting our worlds oceans.



Extent of Ice during last Ice Age
(Last Glacial Maximum)



Location of Glaciers and Ice sheets

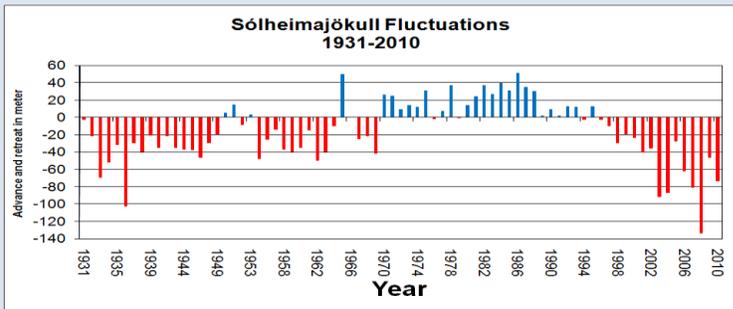


Ice Ages

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 glacier 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.

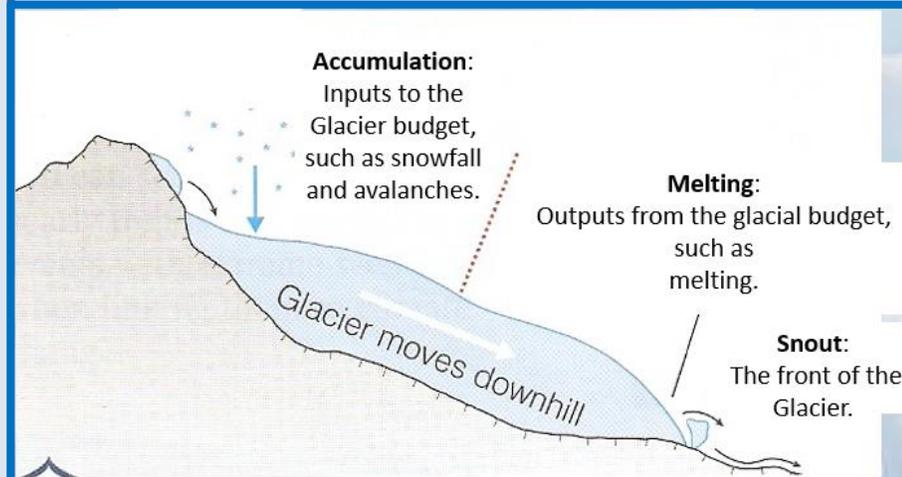


What is a glacier and how does it form?

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?

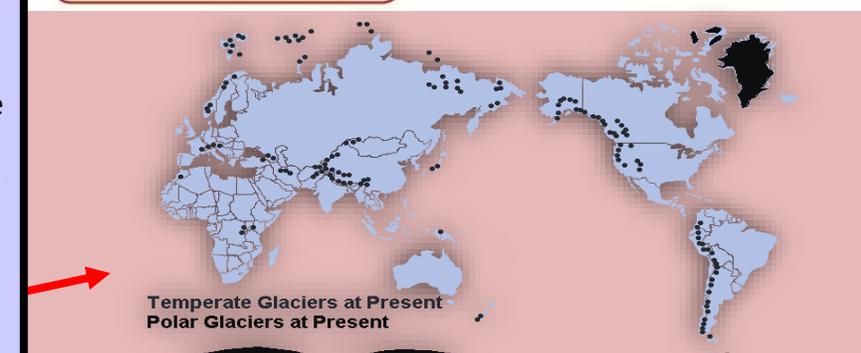
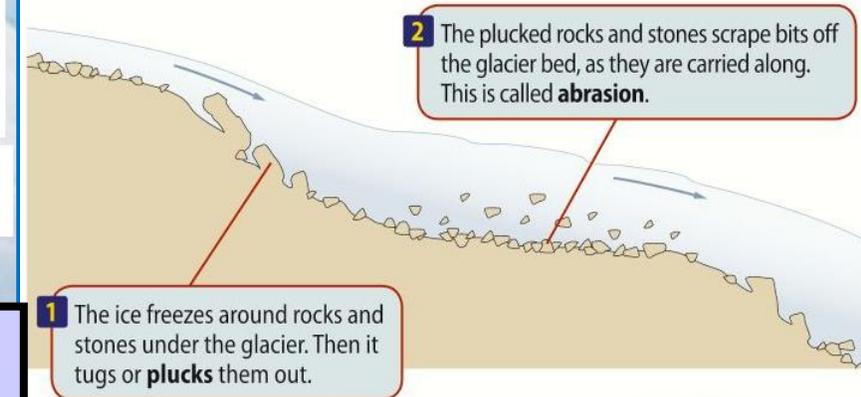
The map to the left shows the location of every glacier at the moment. There are actually glaciers located in every single continent in the world, but Antarctica is the biggest glacier, holding 90% of the world's fresh water, followed by Greenland. Glaciers are found in places further north and south 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.



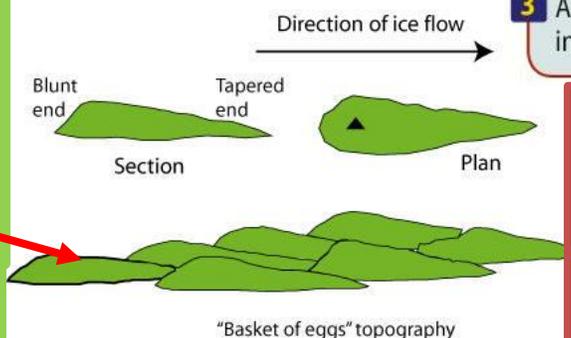
Deposition on Glaciers

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

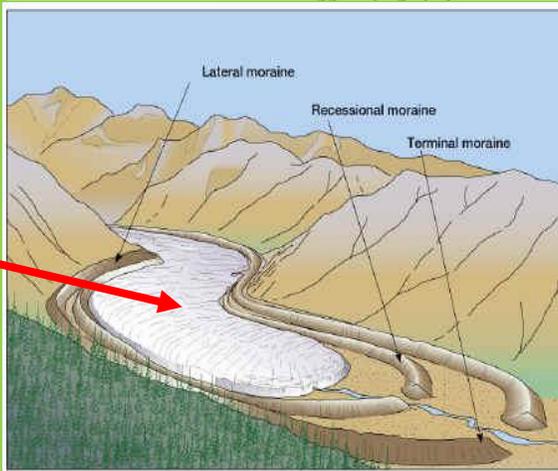
Drumlins are elongated hills of **glacial deposits**. They can be 1 km long and 500 metres wide, often occurring in groups. These would have been part of the debris that was carried along, accumulating under the ancient glacier until it became overloaded with **sediment**.



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



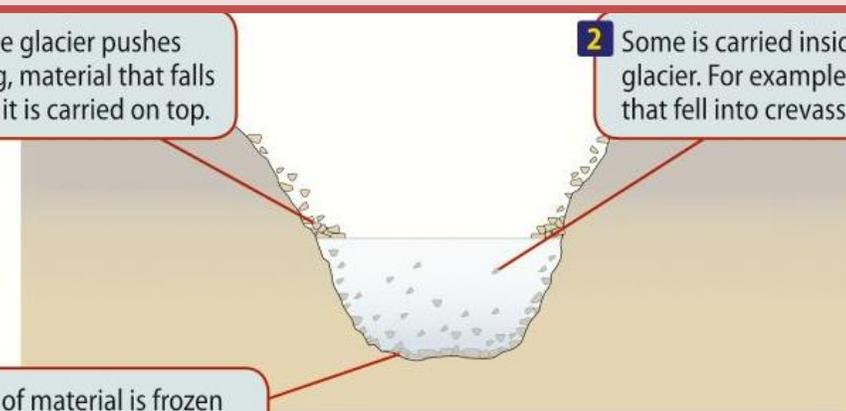
Transportation on glaciers

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 **bergschrand** (a gap) is created.

1 As the glacier pushes along, material that falls onto it is carried on top.

2 Some is carried inside the glacier. For example, debris that fell into crevasses.

3 A lot of material is frozen into the base of the glacier.



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.

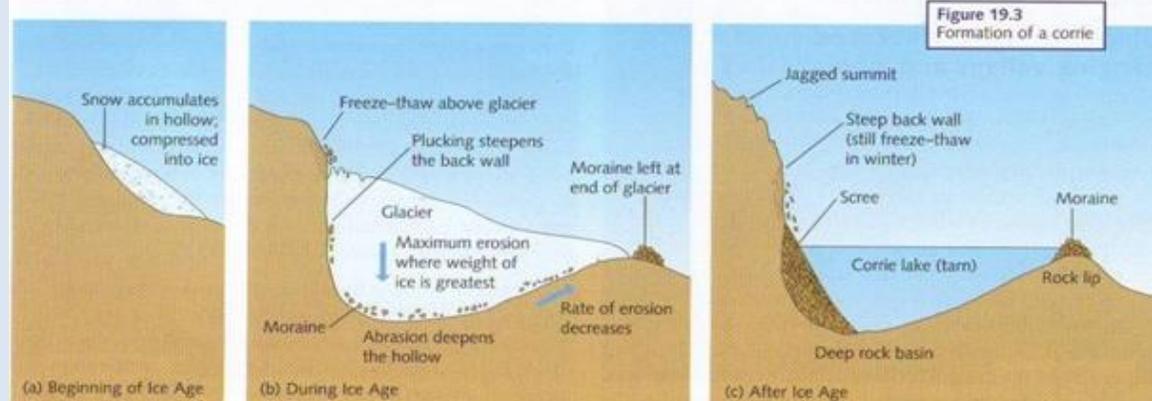


Formation of a Corrie:

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

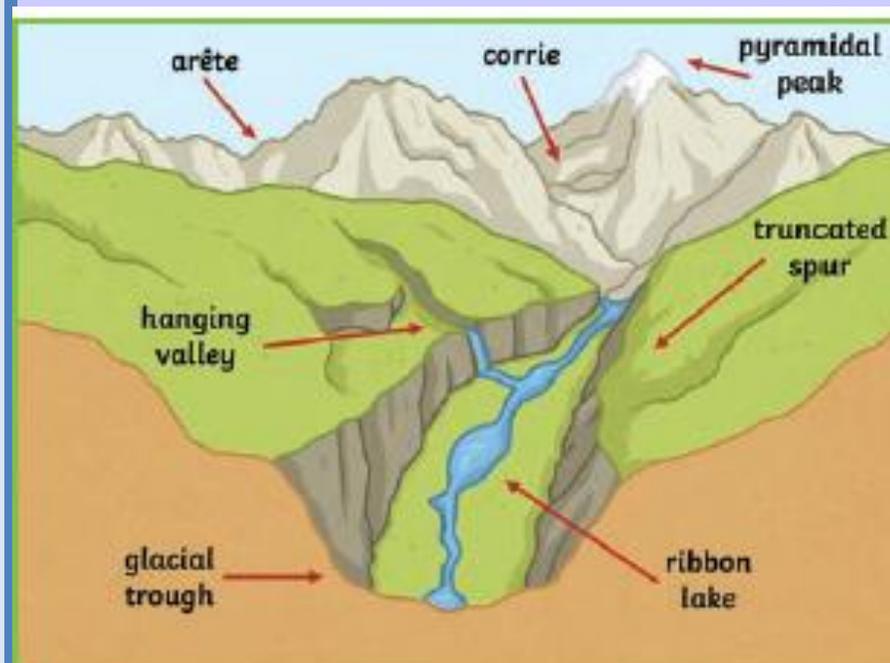
The original v shape river valley is widened and deepened as the glaciers moves downhill through plucking and abrasion, it is now U shaped.

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



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 activities

- Skiing and snowboarding
- Cross-country skiing
- Ice climbing
- Paragliding
- Spa days

Summer activities

- Hiking
- Railway and lift rides
- Cycling
- Rock climbing
- Mountaineering
- Music events

Impacts of tourists in Chamonix

<p>Extra income supports local services such as shops. Local people benefit from improvements in transport and healthcare.</p>	<p>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.</p>	<p>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.</p>	<p>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.</p>
<p>Lots of jobs created; 2500 people work as seasonal workers every year.</p>	<p>Chamonix is maintained as an attractive town. Pedestrian streets give people safe access to shops and the town is clean and well lit.</p>	<p>The types of jobs available in Chamonix have changed from farm labouring to jobs in restaurants and hotels.</p>	<p>Mountain footpaths have become eroded due to the sheer volume of visitors, both walking and using mountain bikes.</p>
<p>Shops, cafes and restaurants have become tourist-orientated and expensive. Local people often have to pay more for everyday items. Houses are expensive and many are second homes for wealthy visitors.</p>	<p>Companies make a lot of money from tourism, e.g. <u>Compagnie du Mont Blanc</u> is a company that runs ski lifts and rail transport – it has a turnover of €50 million.</p>	<p>Farm animals can be harmed by thoughtless actions of tourists, such as leaving gates open or dropping litter.</p>	<p>Tourist developments, e.g. ski slopes, have increased the risk of avalanches. This means there are more deaths from avalanches, e.g. in 1999 an avalanche killed 12 people.</p>
<p>A huge amount of energy is used to run the facilities for tourists, e.g. the hotels, ski lifts and snow-making machines. This increases CO₂ emissions, which increases global warming.</p>	<p>Mass tourism activities can create unwelcome noise and damage to the environment, which can detract from the enjoyment of those seeking more peaceful activities such as walking or bird watching.</p>	<p>Key = positive = negative</p>	= Environmental = Economic = Social

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 CO₂
- 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



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.

He later worked mostly as a merchant, as well as a shepherd, and was married by age 25. He also worked to help the people in his community, was a public speaker and military leader.

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 gods.

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.

The Night of Power

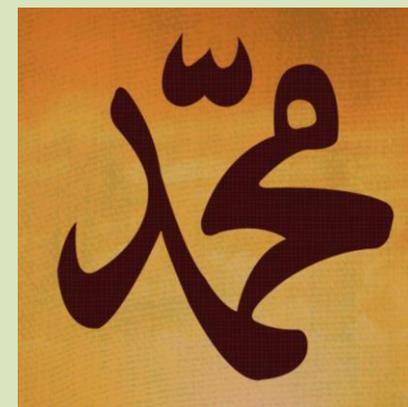
- One day, Muhammad had a strange feeling that he was no longer alone. "Do not be afraid," said a voice. Muhammad rubbed his eyes and stared – it was the **Angel Jibril**.
- Jibril showed Muhammad some words. 'Read!' the angel commanded. But Muhammad had never gone to school. He had never learned to read or write. The angel repeated his command, 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 wrote down these words that had been revealed to him by God (**Revelations**).
- 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 Mohammed received his first revelation.

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

The story of Muhammad



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

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

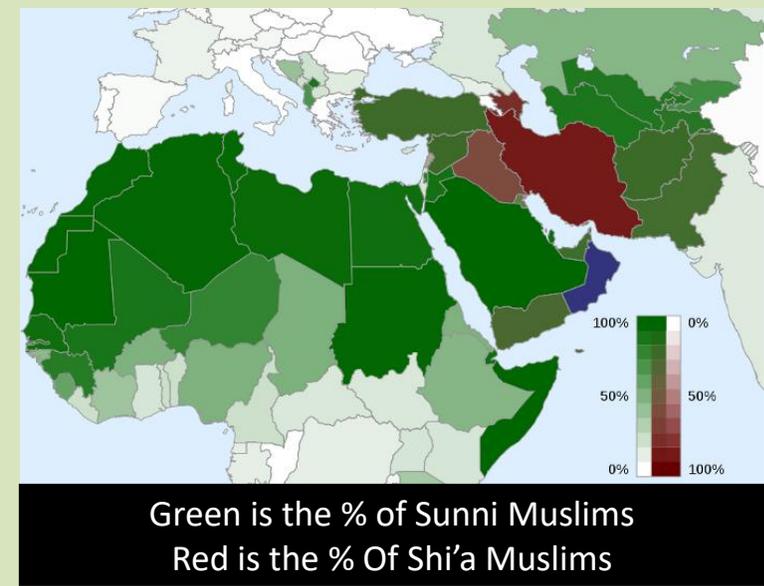
Key Terms	Definitions
Mecca	City in Saudi Arabia where Muhammad lived
Medina	First city in Saudi Arabia Muhammad converted to Islam
Islam	Name of the religion Muhammad founded; Muslims are part of this religion
Cave Hira	Where Muhammad had his Night of Power
Revelations	When God reveals himself to someone – 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

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.
- To escape from this danger, Muhammad and his followers in Mecca went to **Medina** in the year 622. This event, the **Hijra**, marks the beginning of the Islamic calendar. This is because Medina was the first city that Muhammad fought and converted to Islam. Muhammad managed to unit the tribes and gain a following of 10,000 followers who helped him conquer Medina after 8 years of fighting.
- 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 and the other prophets are so holy, that the phrase *'Peace Be Upon Him'* is always said when their names are mentioned.

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. It was written after Muhammad's death by later Caliphs (some 3 generations after).



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.

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)

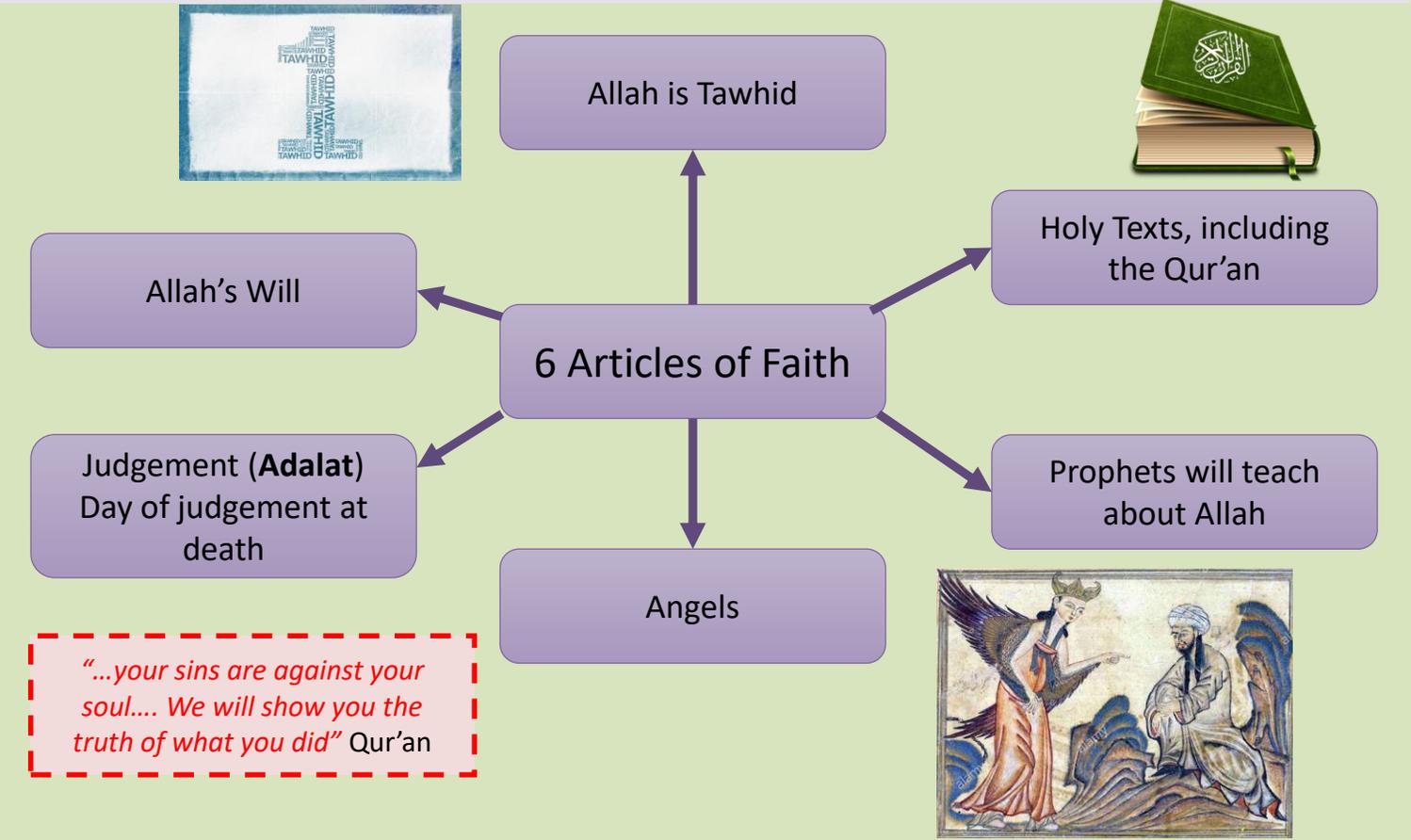
- Tawhid** - the belief in the **oneness** and unity of Allah as expressed in the first of the five **Pillars of Islam**, the **Shahadah**. Belief in this oneness or unity of Allah is essential.
- Angels** – messengers of Allah. They deliver messages from Allah to prophets. The Angel Jibril is most important as it was **Jibril** that revealed Allah’s beliefs to Muhammad.
- Allah's will** – this is the idea that **Allah is all knowing and seeing** in Muslims lives. Muslims believe that nothing is random and Allah has to some extent control over what will happen to Muslims

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.



"...your sins are against your soul... We will show you the truth of what you did" Qur'an

Shahadah

This is the first pillar which means Declaration of the Islamic (Muslim) faith. Muslims repeat the words of the Shahadah to show their **faith and commitment** to Allah.

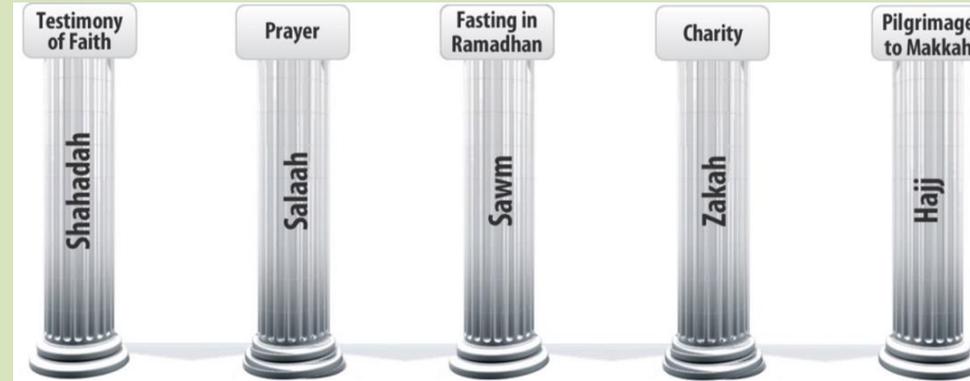
They say:

“There is no God but Allah, Muhammad is the messenger of Allah”.

The Shahadah is therefore spoken at very important times: it is spoken in prayer, spoken to new born babies and to Muslims just before they die.



Introduction to Islam: 5 Pillars



“Prostrate and draw near to Allah” Qur’an

“The place of prayer in religion, is like the place of the head in the body” Muhammad

Key vocabulary

Islam
Allah
Muhammad
Shahadah
Salah
Wudu
Mosque
Rak’ah
Ummah
Sawm
Zakah
Ramadan
Eid



Salah

Muslims pray 5 times a day. This is to remind them of Allah and keep them focused on good in their lives. Muslims pray at a mosque. They face Mekkah and use a prayer mat.

Muslims are called to mosque, using the Call to Prayer – called the **Adhan** – this uses the words of the Shahadah.

Before prayer Muslims wash, this is called **Wudu**. This makes sure they are clean physically and spiritually before going into God’s house.

Muslims have a set prayer (a bit like the Lords Prayer). This consists not only of words but also actions. This is called **Rak’ah** (see the picture below) and focuses on **praising Allah**.

Muslims pray side by side to show they are as one, showing a sense of **Ummah** (Community).

On Friday night there is a special worship and sermon, lead by an Imam (Priest)

Sawm – means fasting

In the Islamic month of **Ramadan** Muslims fast (give up eating food) between sunrise and sun set. This takes a lot of determination and dedication.

The reason Allah asks Muslims to fast is so they can give up things they take for granted, and think about others who are less fortunate. This is a time during the day for **reflection** of their lives and also to **focus spiritually on Allah**. It should also develop a Muslim’s strength, resilience and faith to Allah.

During the month of Ramadan Muslims visit mosque to pray daily. They will have a big **family** meal every evening, so it brings them together.

At the end of Ramadan there is a big Festival called **Eid**. This is a time for celebrating the end of sawm. Money is also given to charity at this time (**Zakah** – see next slide)



Rak’ah



Wudu

Zakah

Zakah is the duty of giving to charity for Muslims. This is **compulsory** and Zakah is usually paid at the end of the fasting month of **Ramadan**. Zakah is **2.5%** of a Muslim family's income. This is paid usually to the mosque and used for the Muslim community. The mosques in England use the money for the poor and needy. There are often Muslim charities that collect Zakah and put it towards worthy causes.

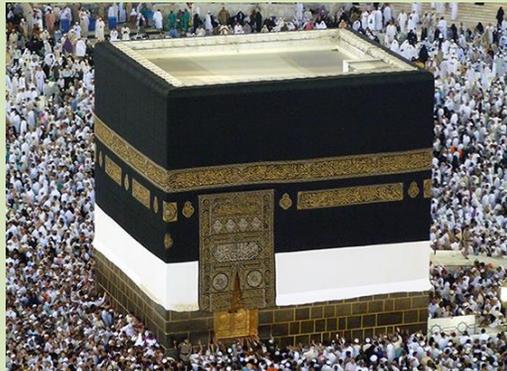
The Muslim family only pay Zakah if after they have paid for essentials like rent and food, they have enough spare money; so poorer Muslims do not have to pay.

It is important for Muslims to give to others as it shows Allah they are **sharing** their wealth with the less fortunate. It is believed that a Muslim is granted his **wealth from Allah** and being generous will earn a Muslim a place in **Heaven**.



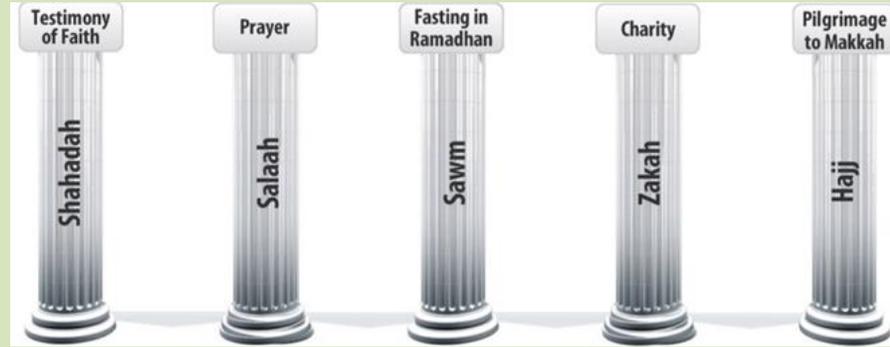
*"Be steadfast in
Prayer and giving"*
Qur'an

The
ka'aba



Year 8 – BVT

Introduction to Islam: 5 Pillars



Hajj means pilgrimage

Hajj is an important duty for a Muslim to fulfill at least once in their lifetime. Muslims all go on pilgrimage to **Mekkah** in Saudi Arabia.

There is a special month for Hajj (though this can change each year). They all follow a **set route** (see above).

Muslims go on Hajj for a few reasons; it shows their **dedication** to Allah, this is important for **forgiveness** for sins and going to **Heaven**. It allows them to visit very special religious sites and take the path that special prophets have taken like Muhammad. Another reason is that it unites all Muslims together showing **ummah** (community) with one another. Muslims also visit sites linked with significant **prophets**.

Muslims wear special white robes when they go. They start by a special black box; this is called the **Ka'aba**. This is said to hold a precious black stone given by an angel to Adam (the first man). Muslim crowd and circle this sacred box 7 times.

There are many other sites that hold importance for Muslims: Here are a few of the important ones. Muslims visit the **Zam Zam well**. This is a well that provided Prophet Abraham's family water in the desert. They visit **Mount Arafat** – nicknamed Mercy mountain. This is a hill Muslims go up and it is said that Allah forgives all sins of those that do so. Muslims also walk to **Madinah**, the first Islamic city, where they visit the mosque which holds the tomb of Prophet Muhammad.

At the end of the Hajj there is a festival to celebrate the journey Muslims have been on.

Key vocabulary

Islam
Allah
Muhammad
Zakah
Hajj
Pilgrimage
Ka'aba
Zam Zam well
Ummah
Madinah
Mekkah
Mount Arafat



Mount Arafat

SPANISH YEAR 8: Cultural Differences

¿Cómo es tu colegio? = What's your school like?

mi colegio (my school)

está (is)

está ubicado (is situated)

en (in)

Wiltshire (Wiltshire)

el sur oeste de Inglaterra (the south-west of England)

cerca de Salisbury (near Salisbury)

es un colegio grande/pequeño (it's a big/small school)

es un colegio mixto (it is a mixed school)

hay xx alumnos / estudiantes (there are xx pupils / students)

y xx profesores (and xx teachers)

tenemos (we have)

no tenemos (we don't have)

aulas

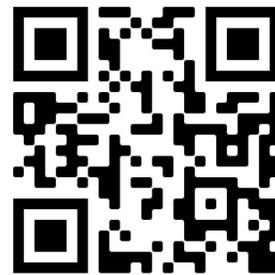
(classrooms)

[un] campo de fútbol

(a football pitch)

[un] gimnasio (a gym)

[una] piscina (a pool)



¿Cuales asignaturas te gustan? / ¿Cuál es tu asignatura favorita?
= Which subjects do you like / What is your favourite subject?

me encanta/n (I love)

me gusta (I like)

no me gusta/n (I don't like)

odio (I hate)

no suporto (I can't stand)

las matemáticas (Maths)

el inglés (English)

el francés (French)

las ciencias (Science)

la educación física (eu-pay-ess: PE)

el dibujo (Art)

el teatro (Drama)

la informática (ICT)

porque (because)

ya que (because)

es (it's...)

guay (great)

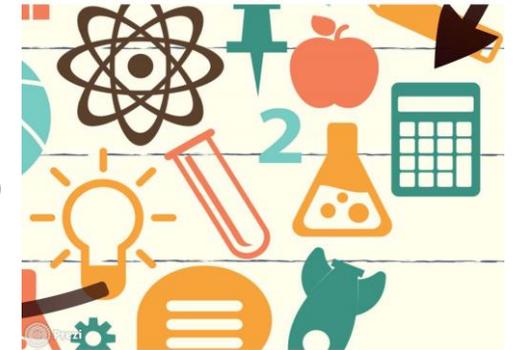
interesante (interesting)

divertido (fun)

terrible (rubbish)

aburrido (boring)

pesado (boring) – 2 ways of saying the same thing!



Describe un día típico en tu colegio

me levanto (*I get up*)

me ducho (*I shower*)

desayuno (*I have breakfast*)

salgo de la casa (*I leave the house*)

vuelvo en casa (*I go home*)

a (*at*)

las ocho (*8 o'clock*)

y cuarto (*quarter past*)

y media (*half past*)

menos cuarto (*quarter to*)

luego (*and then*)

entonces (*and after/wards*)

pues (*next*)

cojo el autobús (*I get the bus*)

voy al colegio (*I go to school*)

en bici (*by bike*)

a pie (*by foot/ walk*)

en coche (*by car*)

en taxi (*by taxi*)



las clases comienzan / terminan (*lessons start / finish*)
mi primer clase es (*my first lesson is*)

en España (*in Spain*)

es diferente / el mismo (*it's different / similar*)

el recreo es (*break is*)

la hora de comer es (*lunch is*)

durante (*during*)

como/comimos (*I/we eat*)

juego/jugamos (*I/we play*)

charlo/charlamos (*I/we chat*)

me diverto/nos divertimos (*I/we have fun*)

estudio/estudiamos (*I/we study*)

¿Cómo es la vida escolar en España/ en Méjico...? = What is school life like in Spain / Mexico...?

prefiero la sistema en España/en Inglaterra (*I prefer the system in Spain/England*)

porque / ya que (*because*)

es (*it is*)

tenemos (*we have*)

estudiamos (*we/they study*)

más / menos [de] (*more / less [of]*)

interesante (*interesting*)

variado (*varied*)

The Fundamentals of Art

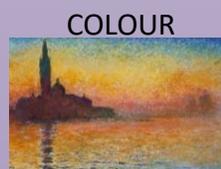
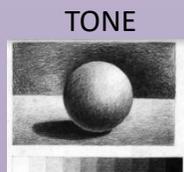
ESSENTIAL EQUIPMENT:

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

OPTIONAL EQUIPMENT:

- DRAWING PENS
- WATERCOLOUR SET
- WATERCOLOUR PENCILS
- PAINTBRUSHES

THE FORMAL ELEMENTS:



SENTENCE STARTERS

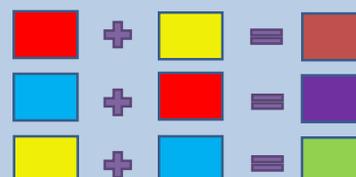
I can vary tone by...

- 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...



ARTIST

ATTITUDE

Be positive and try your best!

RESPECT

Respect others, work and the room

THINK

Understand and demonstrate.

IMAGINE

Be creative, use your imagination!

SPOTLESS

Tidy up after yourself.

TARGET

Follow directions.

MARK MAKING AND ARCHITECTURE

- PERSPECTIVE
- TWO POINT PERSPECTIVE
- ONE POINT PERSPECTIVE
- PARALLEL HORIZONTAL VANISHING POINT
- DISTANCE SPACE
- DIRECTION MOVEMENT
- LINEAR OVERLAPPING LAYERING

COLOUR

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

LINE

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

SHAPE/Form/SPACE

- CLOSED OPEN DISTORTED
- FLAT ORGANIC POSITIVE NEGATIVE
- FOREGROUND BACKGROUND COMPOSITION ELONGATED
- LARGE SMALL 2D 3D
- TWISTED JAGGED

PATTERN AND TEXTURE

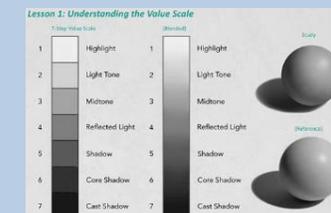
- REPEATED UNIFORM GEOMETRIC RANDOM SYMMETRICAL SOFT
- IRREGULAR UNEVEN ROUGH
- BROKEN GRID FLAT
- WOVEN ORGANIC SMOOTH ABSTRACTED

TONE

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

TAKING ABOUT ART:

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



HUMAN FORM AND ABSTRACTION

TERM 5 and 6

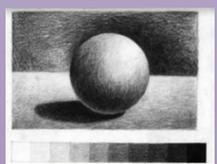
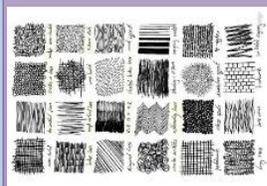
KEY FORMAL ELEMENTS LINKED TO ABSTRACTION AND HUMAN FORM

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.

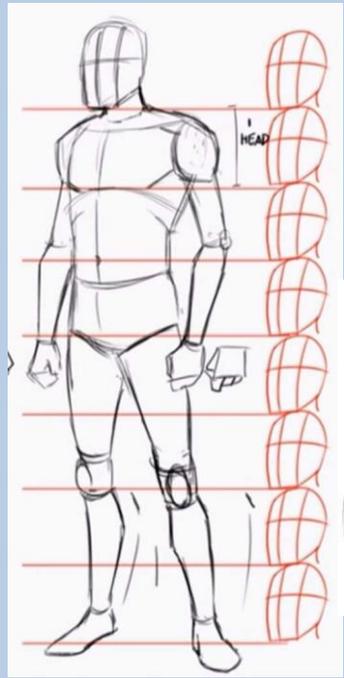
A **SHAPE** is an area enclosed by a **LINE**. It could be just an outline or it could be shaded in. **FORM** is a three dimensional shape such as a sphere, cube or a cone.

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

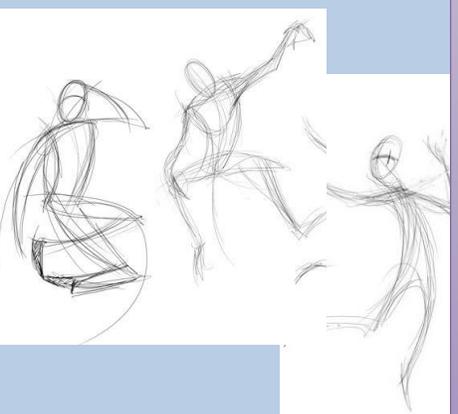
Sculpture and 3D design are about creating **FORMS**



Traditionally, when studying the human form, the length of eight heads makes up the human body, from the top of the head to the feet.



Abstraction definition:
Abstraction is art work that does not attempt to be realistic or representational. Instead it aims to explore the use of form, shape, colour, line, tone and sometimes mark making to create an unrealistic piece.



Figures and movement
When drawing figures in movement you don't have to worry about making your drawings exact and accurate. Try to remember that eight heads go into a body but the movement of line is the most important factor. Experiment with drawing figures quickly without detail. This in itself is a form of abstraction.



HENRI MATISSE



AUGUSTA SAVAGE



ALBERTO GIACOMETTI

Artists you could research...



ELISABETH FRINK



HENRY MOORE



HUMAN FORM AND ABSTRACTION

TERM 5 and 6



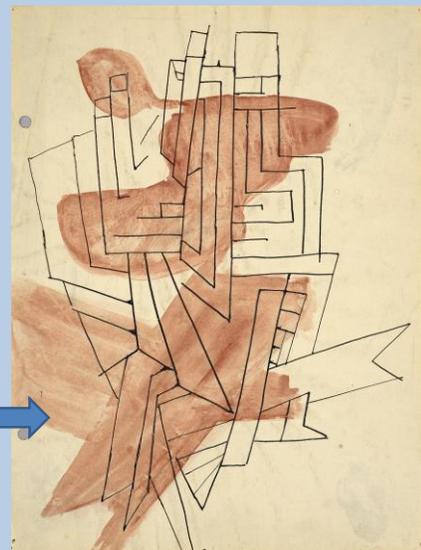
PABLO PICASSO
THE OLD GUITARIST, 1903

These two artworks are not related in anyway, were made during different eras and use different materials.

However, when they are placed next to each other there are similarities.

Keywords to describe these similarities might be...

- Figure
- Human
- Line
- Overlapping
- Layers
- Sad
- Lost
- Musical



PERLE FINE, STUDY FOR
KOMPOITION, 1945

Methods of abstraction...

Colour



Shape and form



Texture

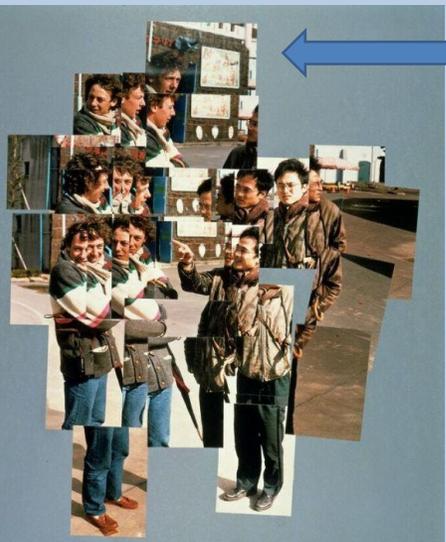
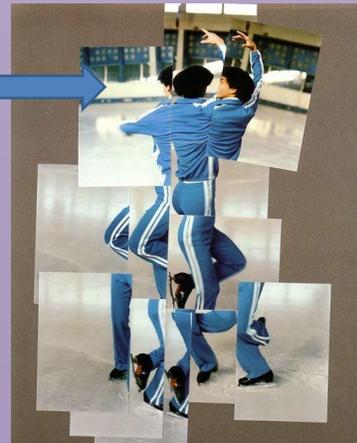


Detail (or lack of!)

Line



Space



- DAVID HOCKNEY**
- Hockney is a British artist.
 - He creates colourful paintings and photomontages (Joiners).
 - He abstracts his work through composition and colour.

- HENRI MATISSE**
- Matisse was a French painter and paper cut artist.
 - He pioneered the paper cut technique.
 - He abstracted his subjects through simplification and colour.



Study Focus

This scheme of work will encourage you to look at people and characters from two new and important angles; how powerful and influential they are and, the background they come from. We talk about a character's power and influence as their **status**. All the different aspects of a character's background are referred to as the character's, **social class**.

Status & social class have been key themes for many playwrights. They are key parts of an actor's study and training at drama schools and university. They are important concepts in the GCSE drama curriculum. This scheme of work will give you an excellent introduction to **Status & social class** and a sure basis for your understanding and ability to apply and communicate these aspects of a character in performance. You will use a range of tasks and draw on a range of previously learned skills and knowledge to develop your understanding of these important ideas and your ability to demonstrate your understanding through several key scenes and exercises.

Things that you will learn in this topic

- What we mean in drama by the term, 'A character's **status**'.
- What we mean by the term, 'a character's **social class**'.
- What the difference is between a character's status and their social class
- How to use; voice, body, space & time to communicate a character's status & social class.
- How to use your knowledge of status and social class to create depth and detail in the characters and plays that you write and devise.
- Who was Stanislavski and how his ideas can make your scenarios, characters and acting believable, true to life and convincing.
- How to adapt a given scenario into play format.

Drama - Year 8 – Term 5 and 6

Social Class and Status

Some exercises, tasks & home works you may do in this topic.

The 4th Year Are Animals- Richard Tulloch- you will analyse, interpret, act out and evaluate a scene from this play. You will need to learn lines.

The Head's office- you will devise, write, act and evaluate a scenario where a student is questioned about a situation where they were unwittingly dragged into a crime by another student. You will explore all the ways that the characters play '**High**' & '**Low**' **status**.

Tiggy & The Mechanic- This is a scenario designed for you to begin to really understand the difference between a character's status and their social class. You will interpret their Given Circumstances, develop the characters, work out their objectives devise the scene, rehearse the scene practising using your chosen objective. You will explore the language used by people from different social classes- any particular words, phrases and the ways that they are spoken. You will write up the scene in depth and detail.

"...And you know, here's is no such thing as society..."

Margaret Thatcher in interview with Women's Own magazine 1987

Some people think that Social class is very important and some people think that it doesn't matter much at all. Some people think that it doesn't exist at all.. That it is not even a thing. In a sense this is definitely true- social class is an idea. It is a way of putting people into boxes. We are fond of putting people into boxes. I wonder if you can think of reasons why we like to do this?

Some people think that we can change our social class, others think that our social class stays the same no matter how our situation in life changes.

Our status definitely does change through our lives, even day to day, even from one moment to another.



Key skills and Things to Remember

The Ingredients of a Play- (IOP)

Characters- the people in the play

Plot- The storyline- Your characters in this topic are all part of a family.

Setting- Where & when the scene is set. Your play story and play will change settings because the characters are going on a journey. Different scenes will have different settings.

Speech – The words that the characters say.

Theme – What the play is about- its meaning- its message

Genre – The style of the play. You are writing in the comic genre in this topic.

Classic Play Structure- *A play has a beginning, a middle & an end-* Aristotle circa 500 BC.

TOP TIP: Remember that the beginning scenes of a play need to show the audience what the characters are like, where & when the scene is set. Some of the scenes that you work on will need to 'break' some of the rules of classic play structure- a problem in your story may not be solved, for example.

Internal & External character – You will need to use your knowledge that we think of **Internal character** as all of those things 'inside' a character like their; personality, feelings, thoughts. You will add your new understanding of a character's status, social class & motivation to this list. You will need to learn that as well as vocal things like, accent, tone of voice and physical things like; facial expression & gesture, **External character** includes the way you use space and time.

Key new ideas

Character's Status – this is how powerful a character is. It is not really about how powerful a character is **physically**- it is more about how powerful they are **mentally** and **spiritually**- we some times say, how strong they are psychologically. We talk about characters playing* high status and low status. High status characters have the most power and influence. They tend to get what they want and other people seem to do what they want and give them what they want. They are often the most popular and other people want to be around them and to be seen to be around them. They can give orders although the highest status characters don't have to order, or even ask- somehow everyone knows what they want and give it without them needing to ask. Our status can change over time and situation.

A character's social class- this is quite complicated and people disagree on things. Social class includes things like; where a character lives, how large or small their house is, which street- which part of town their house is in, how much money they have, how much money they earn, how much money their parents have and earn, which school they go to, which school their parents went to. We use terms like **working class, middle class, upper class, aristocracy, royalty**. There might also be an **under- class**. **A character's class** includes things such as their job; traditionally jobs that require working with the hands; plumber, labourer, seamstress, cook builder etc. are considered, **working class jobs**. Things like, bank manager, company director, doctor, solicitor- jobs that rely less on physical and more on mental work are traditionally thought of as **middle class jobs**. Aristocratic people and Royalty have titles like; Lord or Earl or Duchess or Her Majesty. These people are often land owners.

A character's social class is sometimes shown in their voice, accent, attitude and behaviour. It might also be shown in their tastes, views, values, likes & dislikes.



Constantine Stanislavski 1863 -1938

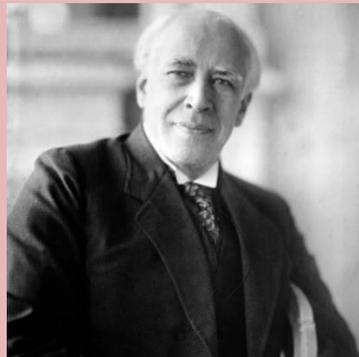
Sometimes known as, 'the father of modern drama', Stanislavski was a Russian teacher, theatre director, theoretician and practitioner. His ideas are taught extensively in drama schools and University drama departments. His techniques and methods are used by all modern stage, television and cinema actors to greater or lesser degrees. Stanislavski dedicated his life to finding ways to help actors act more naturally, truthfully and creatively. Some of these ideas are contained in his, **Psycho – technique** (short for psychological technique). In this scheme of work you will learn about and use, two of them; **Given circumstances & Objectives**.

Character's Given Circumstances- this is everything about the character's situation that is relevant to the situation. It includes the character's age, mood, financial situation, relationship situation, everything that has just happened and is going on in their life- because that is what they **bring** to the situation.

Character's objective – This is what the character wants in and from the situation, for example, Alan Howman in *The 4th Year Are Animals*, wants to find the office and Carol wants work out what he is like and mess him around a bit. In *Tiggy & The Mechanic*, Tiggy wants her car keys, The mechanic wants her to understand that the car is not safe and he will not give her the keys under any circumstances..

You will practise these and learn more of them in Year 9 .

Stanislavski is one of the key Practitioners that you would study in GCSE drama.



Constantine Stanislavski-1936?

'Playing' low status

- Thin, weak tone of voice.
- Often high pitch.
- Often quiet, unvoiced.
- Stammer, nervous stutter
- Fast nervous, gabbled or slow unsure and uncertain
- Closed up body language- 'holding onto themselves'
- Fidgeting, fiddling, fumbling.
- Playing with fingers.
- Touching face, hair.
- Biting nails, biting lip.
- Taking up as little space as possible
- Small personal space.
- Can only go somewhere when they have permission
- Have no control of when things happen- things happen to them.

Communicating your character's status

An actor communicates the character's status just like they do any other aspect of their **Internal character**, by using their **External Character** – their **voice** e.g. **Tone**, **body** e.g. **facial expression**, **time** and **space**.

Extra Practitioner: Keith Johnstone – Improvisation.

This is a wonderful little book whose exercises are used a lot in drama schools and by drama teachers. There is a whole, excellent chapter on, status.

'Playing' high status

- Strong, assured tone of voice.
- Often a low pitched voice
- Loud volume where necessary.
- Often speaking slowly in a calm measured tempo-rhythm.
- Open, strong and relaxed body language
- Strong straight posture
- Stillness
- Minimal movement
- Takes as much time as they like- high status people, 'own' the time. They control how quickly or how slowly things happen. They can speed up or slow down as they wish. They determine what happens and when.
- Uses as much space as they like- high status people can go where they want, when they want. They control the space. They have a large personal space- sometimes they have an aura about them. They can invade other people's personal space and they can respect it too, as the very highest status people do.

Remember that actors communicate everything about their character by the way they use their voice, body, stage space and time. Remember this when rehearsing ***The 4th Year...*** and devising, ***Tiggy & the Mechanic***.

(Outside the office – Alan encounters Kelly in the Playground.)

Alan: Excuse me – can you tell me where the office is?

Kelly: You a new teacher?

Alan: That's right.

Kelly: What you teaching?

Alan: English I think.

Kelly: Hasn't Mrs Harrison told ya?

Alan: Is that the Head?

Kelly: You want to see her?

Alan: Yes, that's why I asked...

Kelly: You go down the end of this corridor, then there's these double doors that's the gym and then you turn down to your left and that's her office.

Alan: Thanks. *(He starts to go)*

Kelly: What's your name?

Alan: Alan... Mr Howman. What's yours?

Kelly: You been at a school yet?

Alan: Pardon?

Kelly: You been at a school yet?

Alan: Have I been teaching at a school you mean?

Kelly: Yeah.

Alan: Well yes- I've done some teaching practice while I was at college.

Kelly: This is your first job as a teacher though.

Alan: Paid job, yes.

Kelly: Oh- I hope we get you.

Alan: You never know your luck. *(Kelly Exits.)*

Things to consider in this scene

- What sort of back ground do you think Kelly is from... what **social class** is she from? What do you base your opinion on?
- What sort of back ground do you think Alan is from... what **social class** is he from? What do you base your opinion on?
- Which character should have the higher **status**? Which character does have the higher **status**? What are some reasons for this?
- How would you, as an actor, 'play' Kelly to show her **status** and **personality**- how would you use your **voice**, **physicality** and **stage space** ?
- How would you change your voice and body to show Alan Howman's **social class**, **personality** and **status**?
- Before British schools went over to the American system, Y 10 was called the 4th Year. Why is the play called, '*The 4th Year are Animals*'?

Tiggy & The Mechanic - the story

Tiggy is from a 'good family'. The kind that has the Chief of the Metropolitan Police around for supper or, a law lord, University Professor, or a leading bishop. Never pop stars - nothing vulgar or, 'new money'.

Upon graduating from Oxford, Tiggy's father bought her a delightful bijou place on **Flood Street, London SW15TE**. Her father said that it be an investment and cheaper than renting in the long run. The price was not disclosed, but the property average in Flood Street in 1997, was 2.3 million. She needed somewhere in London whilst she was doing her master's at University College London (**UCL**) or The London School of Economics (**LSE**) – I forget which. I forget what her Master's was in now, too. Anyway, she needed somewhere in London and got one.

For completing her Master's with, 'flying colours', her father had a Mercedes car designed and built for her. Everything was to her taste and ergonomically designed for her body and driving style. The car was a 'one-off', unrepeatable, a beauty. It would appear in many fashionable magazines. Tiggy would drive it to the '**98 Debutantes' ball** at the **City Hall Edinburgh**. Anyone who was anyone would be there and Tiggy daydreamed about pulling up at the steps of the City Hall in the late summer, bright, evening sunshine.

As the car was a, one-off, there was a simple but very important thing that she needed to check for the first week or two but she had forgotten. It meant that as she was driving home on the Friday evening, the car cut out and smoothly and softly and safely came to a standstill on The King's Road, just before the turning into Flood Street.

At the junction of Flood Street and the King's Road, there is a small garage. Not a chain. It had been there for years and years. In fact the Mechanic's grandfather had opened it way back when Chelsea was an ordinary part of London, a bit rough even, in places. The Mechanic was working late to get a car finished for a customer, as he often did. He was always busy. Anyone in the know brought their cars to him as he was, '**as honest as the day is long**' and the kind of

man that must have been, '**born with a spanner in his hand**.' If he couldn't fix it, then it couldn't be fixed, was a local saying.

Tiggy ran into the Garage not even minding going through the thick polyurethane drapes that separated outside the garage from inside the garage and maybe kept some heat in during the winter. They did keep the heat out in summer for which the Mechanic was always appreciative and may have partly explained some of his late finishes in June, July and August.

She almost bumped into him as her eyes failed to adjust from the keen sunshine to the cool gloom of the garage. "Whoa, can I help you miss?" the Mechanic smiled generously and warmly. "it's my car, it's just stopped and won't go" Tiggy blurted. "And it's on a double Red... it's outside." Don't worry Miss I'll get it pulled in right this minute" the Mechanic assured her. She pursued him as he walked to the pick-up, " I need it by tomorrow... by 12.. I have to be at a party in Edinburgh". "I will do my best, Miss..." Tiggy didn't listen to the rest as she turned with a hundred, 'thank yous, you're a life saver' and other platitudes.

The Mechanic did do his best. He was even a little late to his granddaughter's birthday as he stayed, phoning around to find a replacement part. However, because the car was unique in many ways, there was nowhere in the UK that had the part; a small, vital and unassuming sensor that monitored things that Tiggy thought most worthy of other people's attention.

Tiggy walked down from Harrods with two identical dresses apart from the colour which she couldn't decide on and instead decided to decide once she arrived at the Ball. The dresses were, of course, reassuringly expensive enough to ensure that no one else could afford them.

Tiggy stooped as she pushed through the heavy polyurethane drapes. She grimaced as she noticed the acrid, metallic smell and mini pools of oil that she'd missed in her panic yesterday. She walked gingerly towards the 'office' where she'd encountered him yesterday. "Hello" "Hello!" she repeated, loudly. "just one minute miss.." the Mechanic answered as he slowly and methodically emerged from beneath a vehicle which Tiggy noted wasn't her own. "I've come to collect my car" she announced with her standard smile for these situations. " I am so sorry, Miss. I have not been able to mend your car" "Pardon ? " she interjected. Tiggy had been shielded from any bad news for the totality of her 22 years. "It needs a new part and I can only get in from Mercedes HQ in Stuttgart. It's a sensor. They made it especially for your car, I'm told. They will press you another on Monday without del" "But I need it now.. I have to go to Edinburgh. A party. I have to-" "You're going to have to take the train Miss, or maybe I could loan you one of these" Tiggy didn't glance to look at, "one-of-these" ...

ALL ABOUT THE BASS

Exploring Bass Clef Reading and Notation and Bass Line Musical Patterns



Module Learning Objectives

Bass Clef Reading and Notation forms the foundation of this unit which explores a range of commonly used Bass Line Patterns within a variety of different types, styles, and genres of music from different times and places.

#Understand how the Bass Clef is used as a form of musical notation.

#Identify musical instruments and voices which use the Bass Clef.

#Know and understand the construction of commonly used Bass Line Patterns, using these when performing and creating music.

#Understand the importance of a Bass Line in terms of texture and harmony within a song or piece of music.



Here is a mammoth Tuba ensemble playing Nimrod by Edward Elgar. All the musicians are professionals from Symphony Orchestras the world over. It is Awesome in headphones.



I love a good funky bass line and I really adore fretless bass guitars (they have no metal lines marking the frets on the fingerboard). This Bass player Remco is just out standing!



Language for Learning/Music Theory

BASS RIFFS – used in Rock, Rap, Hip Hop and Pop songs, bass riffs are short, repeated, and catchy bass line.

WALKING BASS – used in Jazz, Blues, Rhythm and Blues, and Rock'n'roll.

ALBERTI BASS – a way of playing the notes of a chord in order repeated several times.

BROKEN CHORD – a way of playing the notes of a chord separately in a varied order.

ARPEGGIO – playing the notes of a chord ascending or descending.

BASS PEDAL (POINT/NOTE) – a note of long duration held in the bass part

BASS CLEF – A symbol found at the beginning of a staff to show low-pitched notes.

STAVE/STAFF – The five lines where musical notes are written.

Mr Charlton's dream basses. A side valve Besson Sovereign EEb Tuba and a Wal five string fretless bass guitar



ALL ABOUT THE BASS

Exploring Bass Clef Reading and Notation and Bass Line Musical Patterns



A. Bass Clef & Bass Clef Notation

STAFF is the name given to the five lines where musical notes are written.

The position of notes on the staff shows their **PITCH** (how high or low a note is).

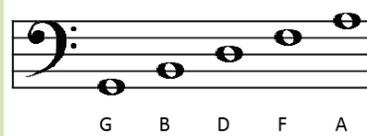
The **BASS CLEF** is a symbol used to show low-pitched notes on the staff and is *usually* used for the left hand on a piano or keyboard to play the **BASS LINE** and also used by low pitched instruments (*see B.*)



The staff or staff is made up of 5 **LINES** and 4 **SPACES**.

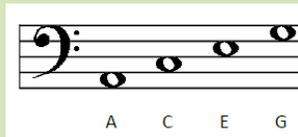
Notes on the **LINES** of the **BASS CLEF**: **G, B, D, F, A**

Green Buses Drive Fast Always

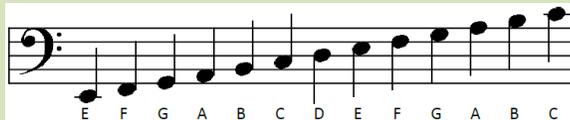


Notes in the **SPACES** of the **BASS CLEF**: **A, C, E, G**

All Cows Eat Grass



Bass Clef **STAFF NOTATION**



B. Musical Instruments that use the Bass Clef



Left Hand of a Piano/Keyboard

Left Hand & Pedals of an Organ

Bassoon

Cello

Double Bass

Trombone

Tuba

Timpani

Bass Guitar

Bass (deepest male singing voice)

C. Bass Line Patterns

BASS RIFFS – Short, repeated ‘catchy’ and memorable Bass Line Patterns used in Rock, Rap, Hip Hop, R’n’B, and Pop songs often performed on Bass Guitar. Bass Riffs ‘fit’ with the notes in the chord, but also use other ‘EXTRA’ notes (**PASSING NOTES**) to make them more memorable.



ARPEGGIO: Playing the notes of a chord separately and **in order** root, third fifth, root, third, fifth etc, can be ascending (going up) or descending (going down).



WALKING BASS – used in Jazz, Blues, Rhythm and Blues, and Rock’n’roll, and featuring **a note on every beat**. Using the **ROOT, THIRD** and **FIFTH** of the chord, and ‘EXTRA’ notes (called **PASSING NOTES**) to create a smooth bass line often moving mainly by step (**CONJUNCT**).



BROKEN CHORD – Playing the notes of a chord separately but **not necessarily in strict order** (e.g., like an Alberti Bass), often creating a repeated musical pattern, can be ascending (going up) or descending (going down).



ALBERTI BASS – a type of **ACCOMPANIMENT PATTERN** in the **BASS LINE** using the **ROOT, THIRD** and **FIFTH** notes of a **CHORD** played in a **specific order**.

ROOT	FIFTH	THIRD	FIFTH
Lowest	Highest	Middle	Highest

The pattern repeats, but notes change as chord changes and a melody is added ‘on top’ of the Alberti Bass. Used by Classical composers such as Mozart, especially in solo piano music, as well as modern composers.



(BASS) PEDAL (POINT/NOTE) – either **SUSTAINED** notes of **LONG DURATION**, or **REPEATED LONG NOTES**, often in **BASS LINE PART**, using the **ROOT** (a **TONIC PEDAL**) or the **FIFTH** (a **DOMINANT PEDAL**). Changing chords, harmonies, and a melody line “fit over the top” of a **PEDAL** note.



SAHARAN SOUNDS



Module Learning Objectives

This unit explores the main rhythmic musical features and devices used in African music, particularly the African drumming tradition of West Africa.

#To recognise, perform and create African music with an understanding of musical conventions and processes

#To explore different rhythmic processes used in African music – cyclic rhythms, polyrhythms, syncopation and call and response and apply these to own composition and performance activities

#To learn about different African musical instruments and make connections between these sounds and timbres available within the classroom

#Listen to a range of different African music, identifying characteristic musical features



The Djembe is the most popular African drum. This video which is an advert from a Ghana drum company is a great insight as to how a Djembe drum is made.



African drumming is enjoyed by everyone. Here is a great street performance from Lithuania!

Djembe!



Language for Learning/Music Theory

BASS SOUND – a sound produced by striking an African drum in the middle producing a “hollow” sound

SLAP SOUND – a sound produced by striking an African drum near the rim with a “cupped” hand

TONE SOUND – a sound produced by striking an African drum between the middle and the edge.

CALL AND RESPONSE – one person plays (or sings) a musical phrase which is then responded like a musical conversation.

CYCLIC RHYTHM – a rhythm which is repeated over and over again (looped).

IMPROVISATION – a piece or section of music which made up on the spot.

MASTER DRUMMER – often the leader of an African tribe and someone who performs the “calls.

POLYRHYTHM – the use of several rhythms performed simultaneously, often overlapping to create a thick, “polyrhythmic” texture.

RHYTHM – a series of notes of different lengths that create a pattern

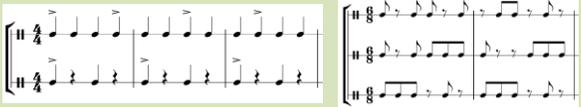
SYNCOPATION – a way of changing a rhythm by making some notes sound a bit early, often so that they cross over the main beat of the music.

A Drumming Graphic Score

1	+	2	+	3	+	4	+	1	+	2	+	3	+	4	+
○		○	○		○	○	○	○	○	○	○				
✎		✎	✎		✎	✎	✎	✎	✎	✎	✎				
Go		Do	Go		Do	Go	Do	Go	Do	Go	Do	Go			

SAHARAN SOUNDS



<p>Characteristic Rhythms and Metres, Traditional Rhythm Patterns & Repetition and Ostinato</p> <p>REPETITION and CYCLIC RHYTHMS used to organise music. A repeated rhythm pattern (OSTINATO or TIMELINE) is used as a basis for IMPROVISATION to “hold the piece together”. Use of SYNCOPIATION, POLYRHYTHMS (shown below right), CYCLIC RHYTHMS and CROSS-RHYTHMS (shown below left). MASTER DRUMMER can give musical ‘cues’ to performers to change rhythms during a performance and can also choose to ACCENT different beats within a RHYTHM CYCLE.</p> 	<p>Pitch & Melody and Harmony & Tonality</p> <p>Most African melodies are based on a “limited number of pitches” - four, five, six or seven note SCALES and are normally short and simple, often expanded by REPETITION and IMPROVISATION. The pitch in African drumming is largely determined by the tuning of the drums. African singers often create vocal harmony by singing in thirds, fourths or fifths. UNISON and PARALLEL OCTAVE harmony is also common. The basic form of African Vocal Music is CHORAL SINGING known as CALL AND RESPONSE where one singer (SOLOIST) or small group of singers sings a line and the whole group (CHORUS) makes a reply (often a fixed REFRAIN) – like a “musical conversation” – in alternation with the “lead singer”. The soloist often IMPROVISES. African singers often “shout words” (VOCABLES) and male and female singers enjoy using their highest VOCAL REGISTER known as FALSETTO. African singing can be accompanied by instruments but can also be unaccompanied (A CAPPELLA).</p>		<p>Ornamentation</p> <p>The MASTER DRUMMER can elaborate and decorate his solo drum part with ACCENTS and playing in a technically demanding style to “show off” to the rest of the drum ensemble and audience.</p>		
<p>Texture</p> <p>In West Africa, drum ensembles have 3-5 players each with a distinctive method of striking their drum and playing interlocking rhythms. This creates a THICK and complex POLYPHONIC texture.</p>	<p>Dynamics</p> <p>Since African Drumming is often performed outside and at social gatherings and celebrations, the dynamics are generally LOUD (FORTE -f) or VERY LOUD (FORTISSIMO -ff), but like changes in tempo, can be indicated by the MASTER DRUMMER.</p>	<p>Tempo</p> <p>FAST – designed for dancing and social gatherings – tempo will match the dance steps. The MASTER DRUMMER can both establish the tempo as well as speed up (ACCELERANDO) or slow down (DECELERANDO) or even set a new tempo with musical ‘cues’.</p>	<p>Ensemble</p> <p>A MASTER DRUMMER often leads giving signals to the rest of the group to change rhythms or sections of the piece and can also control the TEMPO. He often IMPROVISES highly complicated rhythms and can indicate the ending of a piece of music as well as playing the “CALL” to CALL AND RESPONSE SECTIONS which are ‘responded’ by the drum ensemble.</p>	<p>Form & Structure and Phrasing</p> <p>The structure of a piece of African drumming depends on the MASTER DRUMMER and has no fixed or determined length, entirely dependent on the rhythms used.</p>	
<p>Origins and Cultural Context of the Traditional Music</p> <p>African Drumming is ‘traditional’ and handed down via the ORAL TRADITION (not written down). Not performed ‘at a concert’, rather everyone joins in by dancing or playing an instrument, singing or clapping. Combines other art forms and heard at special occasions and celebrations. Many Africans believe that music serves as a link to the spirit world.</p>	<p>Musical Characteristics of Folk Music</p> <p>Traditional drums such as the DJEMBE, TALKING DRUM and DUNDUN remain popular in African music today, often combined with a number of percussion instruments, stringed instruments and woodwind instruments. RHYTHM remains a key feature of African drumming.</p>	<p>Impact of Modern Technology on Traditional Music</p> <p>African music has been a major influence on the development of popular music contributing rhythms, structures, melodic features and the use of improvisation to such styles as blues, gospel and jazz, brought over to America by slaves. High quality recordings of traditional African music are now possible with advanced recording techniques</p>	<p>Artists, Bands & Performers of African Drumming</p>  <p>Bolokada Conde</p>  <p>Ladysmith Black Mambazo</p>		
 <p>TALKING DRUM</p>	 <p>DUNDUN</p> <p>Other percussion instruments such as clappers, maracas, scrapers, gongs and xylophones (called BALAFONS) produce their sound by vibration and are known as IDIOPHONES.</p>	<p>Instrumentation – Typical Instruments, Timbres and Sonorities</p>  <p>BALAFON MBIRIA FLUTE GOURD MARACAS KORA</p>			<p>Stringed instruments (CHORDOPHONES) such as bows, lyres, zithers, harps and the KORA are popular as well as some woodwind instruments (AEROPHONES) such as whistles, flutes, reed pipes, trumpets and horns.</p> 

Middle distance: 800m, 1500m

Maintaining a good position:

Running technique:

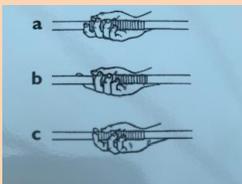
- Upright body position
- Head still and looking straight ahead
- Relaxed head, neck, arms and shoulders
- Gently swinging arms forwards and backwards and slightly across the body
- Easy stride length
- Landing foot placed just ahead of the body
- Pushing off the ground to straighten the leg fully on each stride
- Fairly low knee lift to conserve energy on each stride



Javelin

Grip:

- Choose your grip; A, B or C



Preparation:

- Javelin is taken back a full arm's length with the tip being inline with your nose

Release:

- Pull the javelin arm through very fast above your shoulder
- Rotation will start from the knee and move through the hip and trunk until the javelin is released



Athletics

Intent:

To use knowledge of athletic events, strategies and core techniques to develop skill replication and performance.

Impact:

- Replication of skills and techniques for all events.
- Challenge physical capacity with drive and motivation to continuously improve performance.

Key Vocabulary:

Track Events:

Take your marks

Set

Go

Pace

Sprint start

Throwing Events:

Grip

Stance

Preparation

Release

Follow through

Jumping Events:

Approach

Take off

Flight

Landing

Athletic Events:

Track Events:

- 100m

- 200m

- 300m

- 400m

- 800m

- 1500m

- Hurdles

- Relay

Throwing Events:

- Discus

- Javelin

- Shot Putt

Jumping Events

- Long Jump

- Triple Jump

- High Jump

Triple Jump

Approach:

- Start approach by stepping onto your take off foot
- Mark out your approach distance (11-15 running strides from the take off board)
- Run fast at a speed you can take off from

Hop Phase:

- Use a low take off angle
- Use a single arm action
- Drive out and up with no take off leg
- Stay tall and look forward towards the end of the pit

Step Phase:

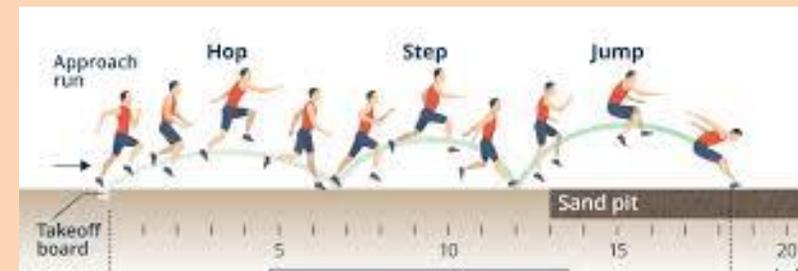
- Push of your back leg just like a bound
- Low take off angle
- Drive your thigh to parallel
- Maintain upright posture

Jump Phase:

- Single or double arm action
- Use the hang technique
- Keep head and chest up

Landing:

- Use a double leg shoot out in front
- Push your feet ahead of your body
- Don't fall backwards



Cricket

Key Vocabulary:

- Wicket
- Boundary
- Batting
- Bowling
- Fielding
- Over
- Catch
- Crease
- Stumps
- Delivery
- Innings
- LBW (leg before wicket)
- Pace
- Line
- Length

Bowling Technique Checklist:

The Bound

- Ball held at chin
- Arms thrown up
- Body leans backwards

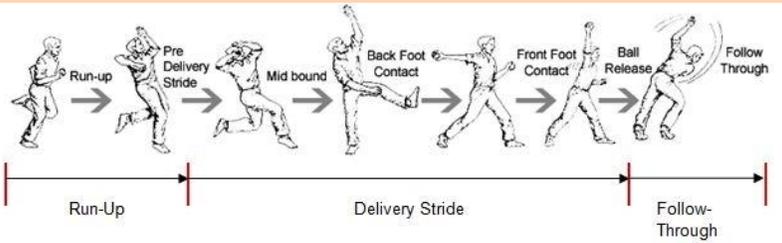
The Coil

- Front arm pulled back
- Make a figure of six with bowling arm
- Back foot lands parallel to the crease

The Release

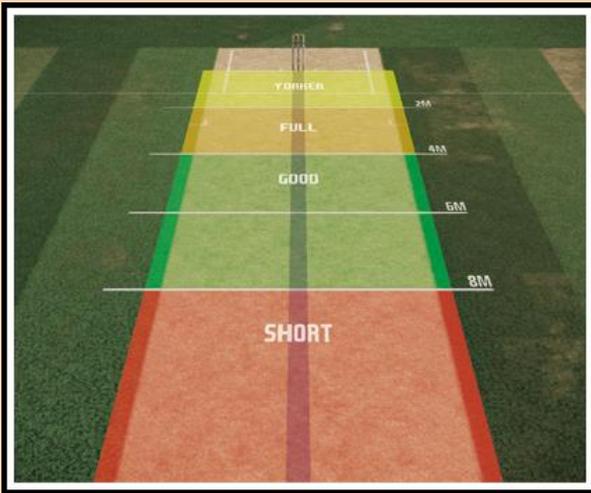
- Release ball at 1 o'clock
- Arm brushes ear
- Look over your shoulder

Follow Through



Line and Length...

When bowling we need to ensure we are pitching the ball at the correct line and length.



Intent:

To provide opportunities to accurately replicate and further develop/refine techniques for batting, bowling and fielding.

Impact:

- Replication of core skills (batting and bowling techniques, catching and overarm throwing)
- Outwitting Opponents in an attacking situation

One handed pick up and throw

When fielding close to the wicket you need to be on your toes to prevent quick singles being taken by the batsmen.

All top fielders practise their pick up and throwing techniques as much as their batting or bowling.

Step One

- Approach the ball quickly in short strides, bending the knees as you meet the ball.

Step Two

- Pick-up the ball with your throwing hand on the outside of the corresponding foot (i.e.: outside the right foot if you throw right-handed).

Step Three

- As you are about to take the next step the throwing hand swings back, still keeping the head down.

Step Four

- Release the ball early towards the target, with the palm of the hand following through on a direct path for as long as possible.

Straight/forward drive

Usually played to a full length delivery on or outside off stump.

Step One

- Lean in with the front shoulder.
- The front foot and a bent front knee form the base for the shot.

Step Two

- Head should be in front of the bent knee
- The bat swung forward and makes contact with the ball under the head.

Step Three

- The bat is swung with a straight path,
- Relax your wrists and follow through the shot



Forward Defence

The principle of a forward defensive stroke is to block the ball rather than to score runs.

Step One

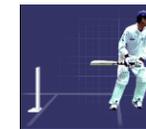
- Lean your head and front shoulder into the ball.
- Take a stride forward with your front foot towards the pitch of the ball.
- The back leg remains straight.

Step Two

- Swing the bat forward and make contact with the ball.
- The face of the bat angled towards the ground.
- Head Over the ball.

Step Three

- There should be no gap between the pad and leg.
- Raise the heel of your back foot.
- Hold your finishing position rather than following through



Fielding techniques

Technique	Description
Short Barrier	
Long Barrier	
One handed pick up and throw	

Bowling Technique

- Hold the ball in your dominant hand, gripped in the fingers and held by the thumb.
- Step forwards into the move to gain power (transfer your weight from the back foot to the front foot as you move).
- Hold your bowling or throwing arm straight, like a swinging pendulum (swing from behind the body to the front of the body).
- Release the ball at waist height.
- Aim for the backstop's hands.
- Try to vary your speed with each bowl.
- Flick your wrist to create spin.

Key Vocabulary:

Rules Vocabulary

- Obstruction
- No ball
- Backward hit
- Batting square
- Bowling square

Technique Vocabulary

- Stance
- Body position
- Follow through
- Mechanics of movement
- Balance
- Co-ordination
- Cushion

Tactics Vocabulary

- Batting order
- Bowling techniques
- Field placements

The Bowler is Boss

- The bowler stands in the square when bowling.
- When the bowler has the ball in the square, batters must not run on from the port they are waiting on or running towards.

Rounders

Intent:

To provide opportunities to accurately replicate and further develop/refine techniques for batting, bowling and fielding.

Impact:

- Replication of core skills (batting and bowling techniques, catching and overarm throwing)
- Outwitting Opponents in an attacking situation



Bowling Rules

- The ball must pass the batter between their head and knee.
- If the bowler bowls two 'no balls' in a row to the same batter, half a rounder is awarded to the batting team.
- The bowler must not step out the front of the box when bowling.
- Bowling must be a smooth action, and the ball must not bounce before reaching the batter



Varying the speed of bowling

Varying the speed of your bowling is a tactic used to make it difficult for the opposition to know what to expect.

Fast Bowling

The faster the ball travels the less time there is for the batter to adjust his/her stance, and to time his/her swing to hit the ball.

Spin Bowling

A spin bowl can make the batter hit the ball upwards, therefore making it easier for the fielding team to catch the ball and get the batter out. A bowler can learn to spin the ball, gripping the ball between the thumb and the first two fingers and twisting them on release.

The Donkey Drop Bowling Technique

- Stand facing the batter, one or two paces back from the front line of the bowling box.
- Hold the ball in your strongest arm
- Swing your arm from the back to the front (like a pendulum) with an underarm action.
- Step forwards as you swing your arm forwards.
- Release the ball a little higher than waist height.
- Flick your wrist upwards to send the ball looping up rather than straight out.
- Transfer your weight from your back leg to your front leg, keeping slightly lower to the ground than in a straight arm bowl.

Tennis

Serve

- You need to be able to hit the ball hard but also with great accuracy.
- The more points you can take on your serve with service winners and aces, the harder you will be to beat.

Step one:

- Don't rush – spend time setting yourself up
- Line your feet up with where you want the ball to go
- Point your racket forwards to the target, using your other hand to balance

Step Two

- Balance, timing and Rhythm are key to success.
- Turn your body sideways, transferring weight onto your back foot
- Throw the ball up above your head and in front of you.

Step Three

- Racket arm should be behind you in a throwing position.
- As you perform the throwing action, transfer weight onto your front leg

Step Four

- At the top of the throw, contact the ball.
- The higher the contact, the more power you can generate.
- Follow through across your body and look to recover to the ready position as quickly as possible.



Intent:

To develop consistency in replication of core skills through conditioned situations, to further develop the ability to land the ball in a target area with control and refine game tactics with the intention of outwitting an opponent. .

Implementation:

Accurately replicate a number of core fundamental skills consistently even under pressure.

Key Vocabulary:

Technique:

Ready position

- Stance
- Back swing
- Top Spin
- Racket
- Slice
- Pace
- Forehand
- Backhand

Shot Vocabulary

- Serve
- Groundstroke
- Slice
- Drop Shot
- Volley
- Smash

Drop Shot

- As players hit with more power and more top spin the drop shot has become increasingly effective as a surprise variation.
- Use this when you have forced your opponent back behind the baseline with a series of deep and powerful shots.
- Then surprise them with a shot that just goes over the net with some backspin to kill the bounce.

Step One

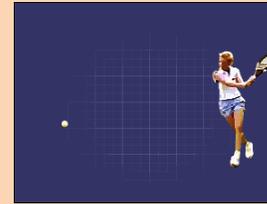
- Ideally the ball that is coming to you should not be too low and will also have a little bit of pace on it .
- Disguise is vital. You want your opponent to be on their heels expecting a deep powerful shot from you.
- To do this you need to move up to the ball and prepare as if you were going to hit a topspin drive.
- You need to set up with a big back swing and shape to hit a topspin shot.

Step Two

- Then at the last second change the shot.
- Shorten your back swing right down and move your racquet head to the ball with a slightly open racquet face.
- Soften your grip on the racquet and as you hit the shot try to feel your racquet face cushion down the back and underneath the ball.
- This will take the pace off the shot and will also generate some backspin killing the bounce.

Step Three

- Often though they just manage to scrape it back.
- Because of this you need to follow your drop shot in to the net a little.



Design and Technology

Cams



	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

	Pear-shaped	Eccentric/circular	Drop (Snail)
Effect of shape	<ul style="list-style-type: none"> Motionless (dwells) for about half the cycle During the second half it rises and falls 	<ul style="list-style-type: none"> Circular to give a smooth continuous movement as the follower rises or falls 	<ul style="list-style-type: none"> Gives a slow rise with a spiral cross-section and then a sudden fall
Example	<ul style="list-style-type: none"> Opens and closes valves in a car engine 	<ul style="list-style-type: none"> In a fuel pump or in steam engines 	<ul style="list-style-type: none"> 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

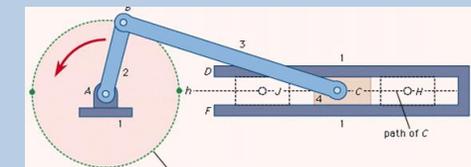
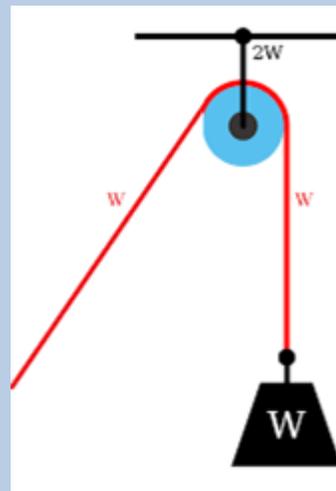
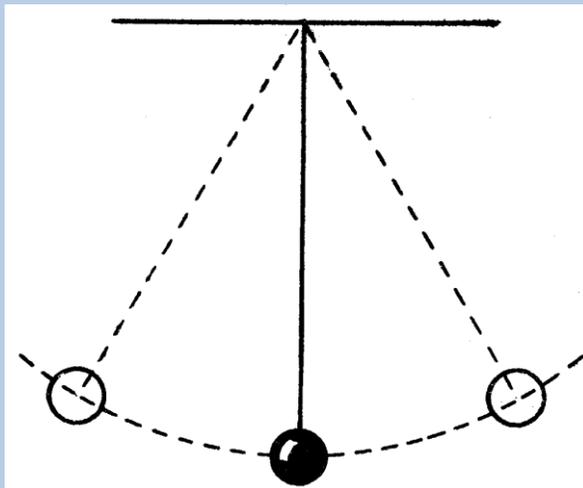
Oscillating - Motion that swings backwards and forwards in an arc from a central point Example: child on a swing or a pendulum

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

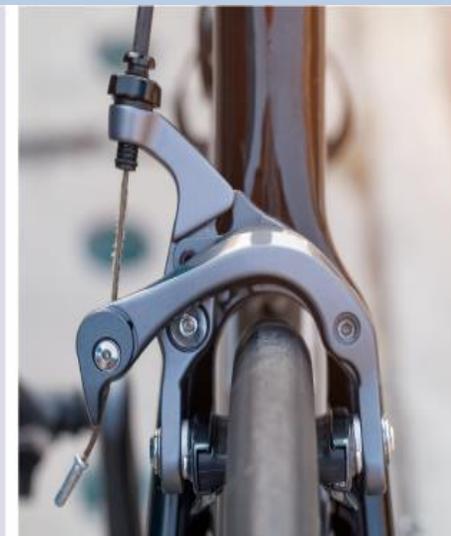
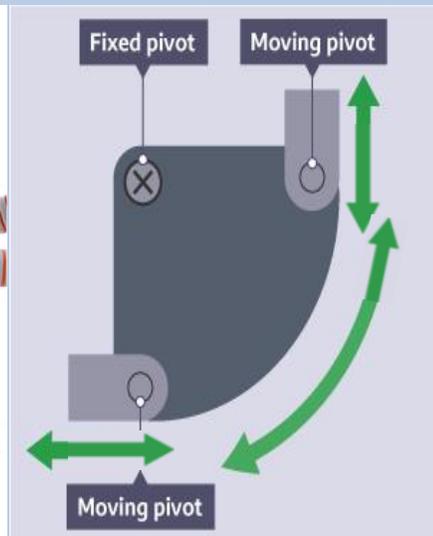
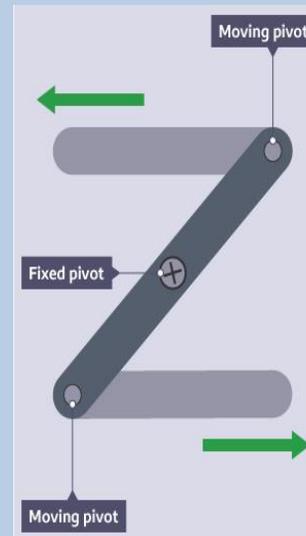
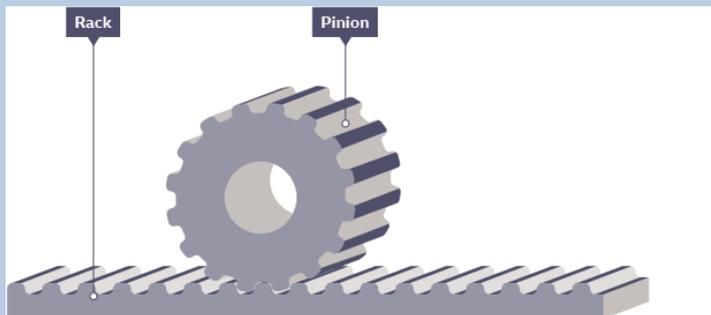
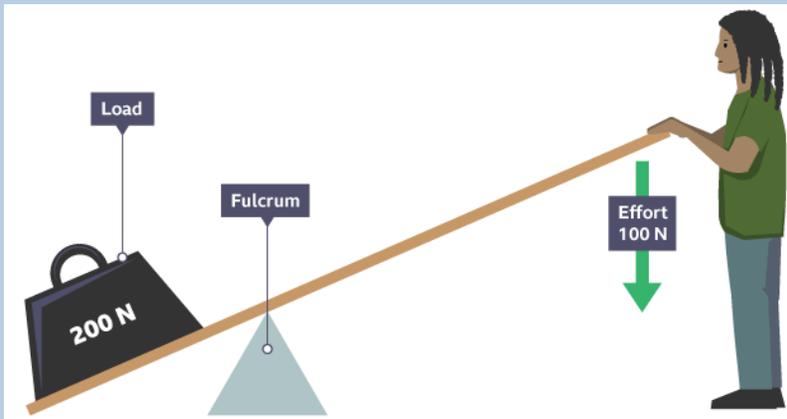
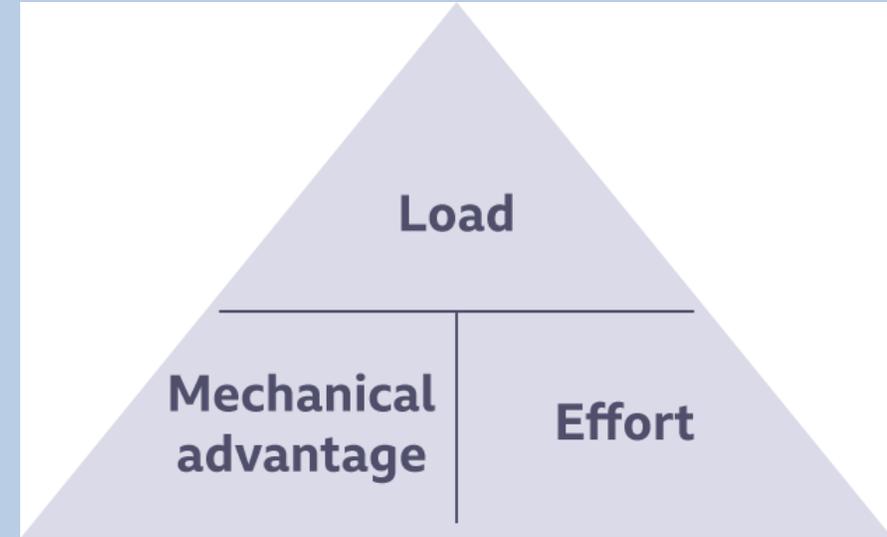
Follower

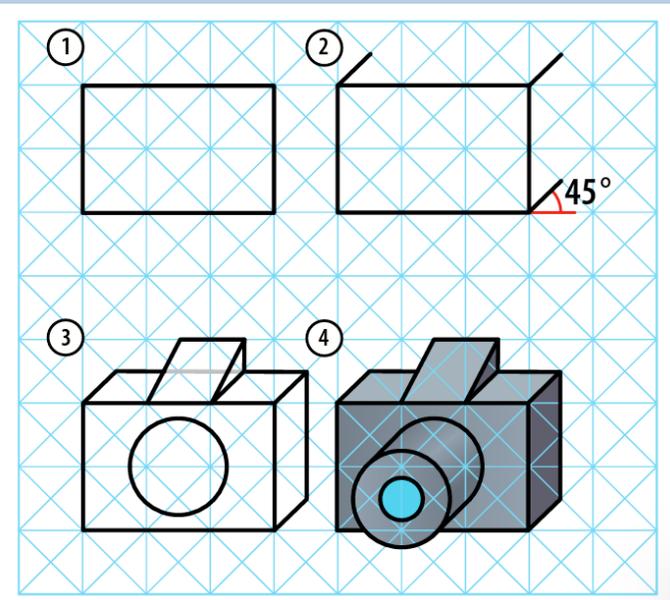
Roller	Knife edge	S	Flat
<ul style="list-style-type: none"> Used when higher speeds are required, such as in engines Rolling motion reduces friction so it will wear better Has separate parts in the roller mechanism and contends with forces pushing them to the side 	<ul style="list-style-type: none"> 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 		<ul style="list-style-type: none"> 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



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

	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





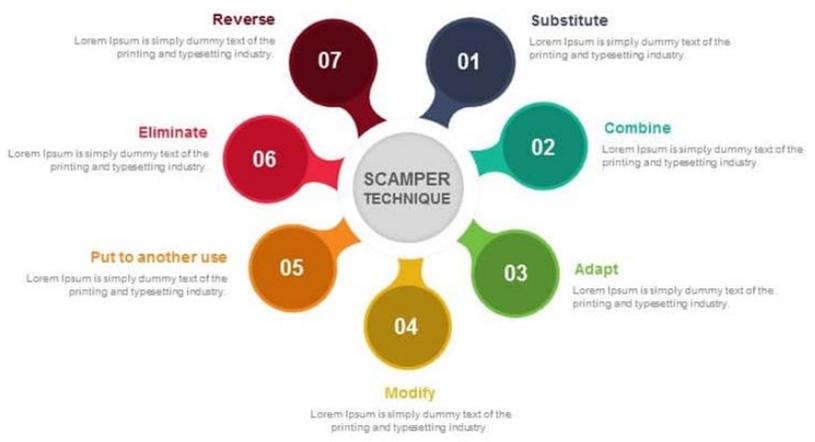
Specification Point to Include	Questions to Answer
Form	Why is the product shaped or styled as it is? What shape / style should it be?
Function	What does it do?
Client and user	How does it meet the needs? How is the product designed for the user?
Performance	How does it work? How does it do the job it 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?

Oblique

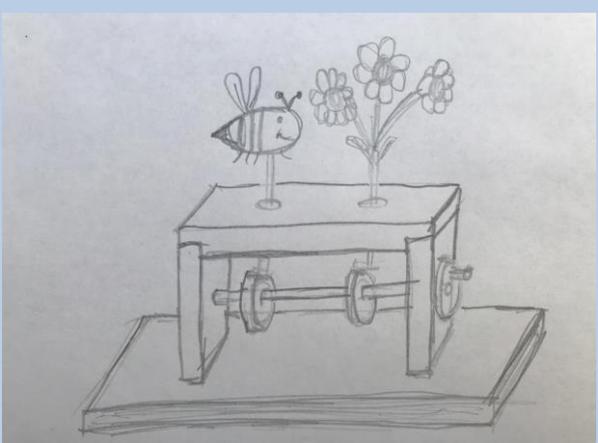
Oblique projection is the simplest method of creating 3D designs based on 45-degree lines. For support, use oblique grid paper to guide your angles:

- 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.

SCAMPER TECHNIQUE



- **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



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

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.

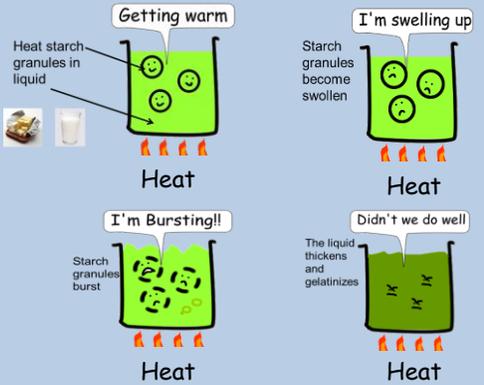
Fair Trade

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

- Cooking** – thorough cooking kills bacteria so ensure food is cooked to 75°C to make sure all bacteria are killed – check this by using a food probe.
- Cleaning** – effective cleaning removes harmful bacteria and stops them spreading so ensure all work tops, utensils and equipment are cleaned thoroughly with hot soapy water.
- Cooling** – effective chilling prevents harmful bacteria multiplying so ensure all food is stored at the correct temperatures, ensure cooked food is cooled within 90 minutes.
- Cross contamination** – Good hygiene practice prevents Cross contamination so when raw food comes into contact with ready to eat food. For example raw meat juices spilling onto salad.



Knowledge Organiser – Year 8 Food

Key Processes

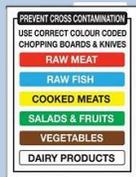
Kneading-
to work dough, to develop the gluten that is found in flour, this gives baked goods their structure and texture. When making dough, the flour and other dry ingredients are combined with the wet ingredients, usually warm water, along with yeast.



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



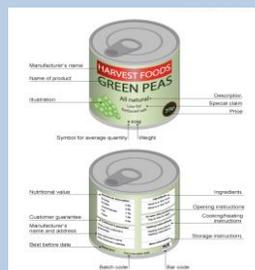
1. Protein
2. Fat
3. Carbohydrate
4. Vitamins
5. Minerals

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 cereals	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	Takeaway 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

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 be 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.

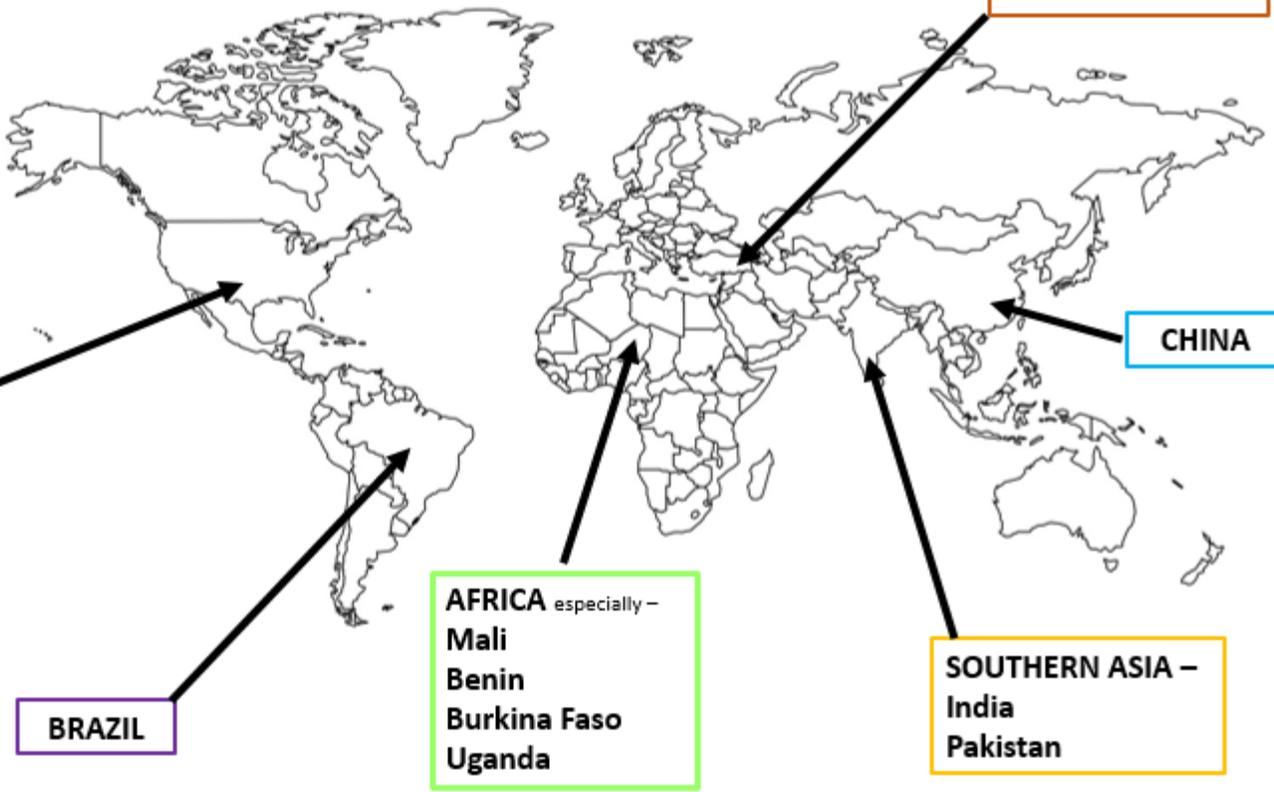
The categories of textile are:

- 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.....



The Cotton Plant - *Gossypium hirsutum*



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.



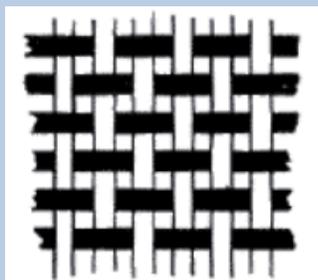
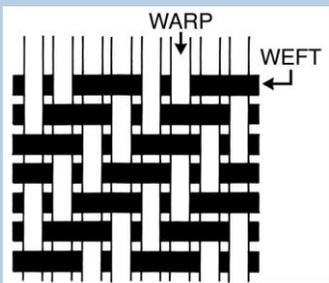
These yarns are woven or knitted into material.

Woven Textiles

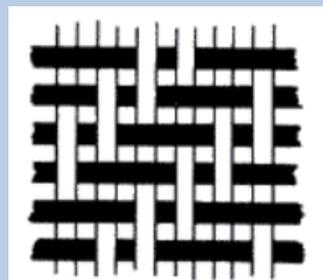
Weaving is the most common way to produce cloth from yarn. The cloth is made up of two sets of yarns which are threaded at 90 ° to each other. The warp threads are fixed in the loom and run the length of the fabric. The weft threads run across the width of the fabric from selvedge to selvedge.

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 not 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

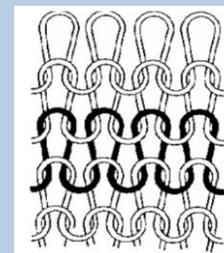
Knitting is a traditional technique of interlocking yarn loops together to produce a fabric and has been used well over 2000 years. There are two types of knitted fabric called weft knit and warp knit. With all knitted fabric, if a yarn breaks then it can come apart or ladder. Knitting can be done by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

Weft Knitting

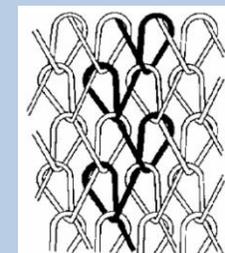
Weft knit fabrics are made by hand or by machine using a single yarn that forms interlocking loops across the width of the fabric. They tend to be quite stretchy due to the method of interlocking and therefore can lose their shape quite easily.

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 doing it:

Systems approach: This means breaking down the process into a number of different strategies and doing each in turn.

User-Centred design: The wants and needs of the client are prioritised - their thoughts are given a lot of attention at every stage of design and manufacture

Iterative design: Centred around the design process of evaluation and improvement at each stage of designing.

When you are designing a product it is easy to get stuck on a particular idea. This is called design fixation and it can stop you thinking creatively and coming up with innovative ideas.

Following the design strategy can help you avoid design fixation and encourage you to look at your design in a critical way to make improvements. Other ways to avoid are-

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

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

Existing Products An example

Aesthetics – This is a square removable cushion cover with heart applique on the front. It has piping around the edge. The colour scheme is light beige with accents of blue. It has been made from linen and is soft. There are some buttons on the front which have been hand stitched on.

Materials & Manufacture – This cushion has been made from linen and the hearts from cotton. A sewing machine has been used to make the cushion. The buttons have been sewn on by hand.

Function – This cushion is for **comfort** and for **decorative** purposes for use on a sofa or chair. It is made from linen so it is **easy to wash** and is comfortable.

Size – This cushion is **40cm x 40cm**. It is a good size and very usable.



Cost – This cushion is **machine** constructed although it has **hand stitched** embellishments and piping around the edge. Although made using a machine, the hand embellishments will make it more **expensive**.

Customer – I think that this cushion is for use by **men and women** however it has hearts on the front which may appeal more to women. It has buttons on the front which could be dangerous for young children.

Environment – This cushion has been made from linen which comes from a plant. This is a good material to use because it is natural and is a **RENEWABLE RESOURCE**. It should last a long time because it has been well made and this also means that it can be **PASSED ON** to someone else, given to a **CHARITY SHOP** when the user no longer wants it.

Safety Because the cushion has been made by machine training would be required to use it. The cushion is safe to use however the buttons could be a **choking hazard** to young children.

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



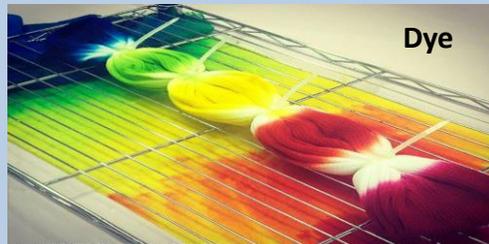
Dye Bath/Vat



Apron



Gloves



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

TIE-DYE PATTERNS AND TECHNIQUES

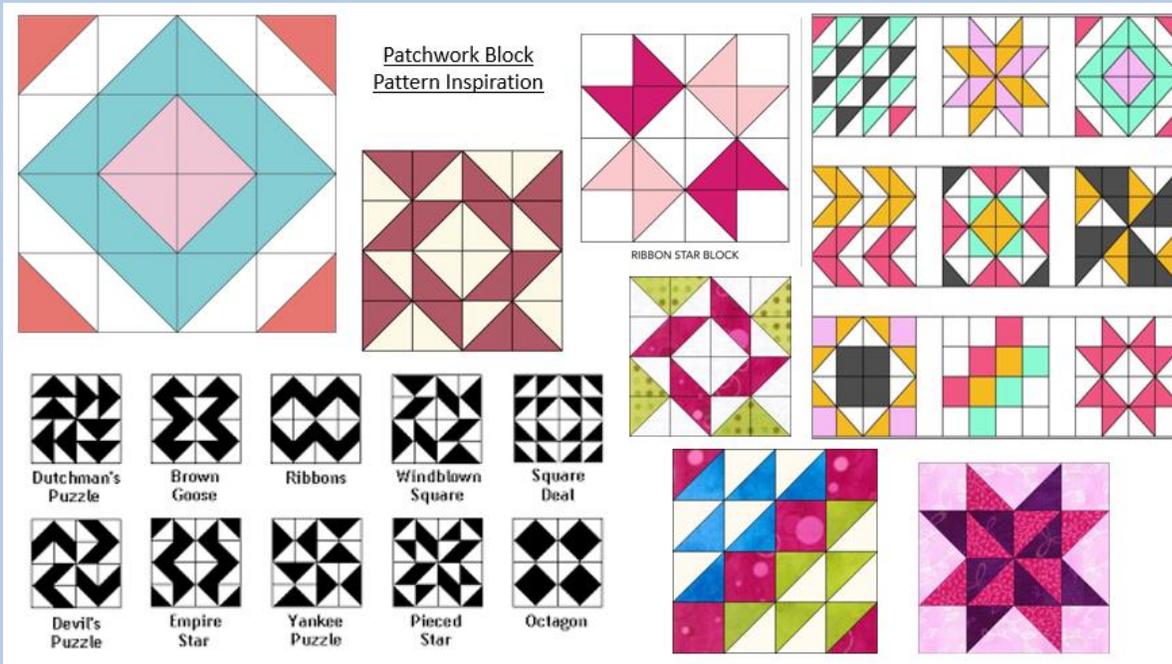
<p>THE CIRCLE</p> <p>Step 1: Pinch fabric at the centre of where your bulls-eye will be. Pull upward into a cone shape, guiding the fabric with other hand.</p> <p>Step 2: Wrap a rubber band 1 to 2 inches below tip of fabric, then continue binding fabric with desired amount of rubber bands.</p>	<p>THE SPIRAL</p> <p>Step 1: Pinch fabric at the center of where your spiral will start. Twist until all fabric is in a spiral shape.</p> <p>Step 2: Bind spiral with 3 to 4 rubber bands, overlapping rubber bands to create 6 to 8 wedge shapes.</p>	<p>THE SUNBURSTS</p> <p>Step 1: Pinch fabric and pull upward about 1 to 2 inches. Secure with rubber band and repeat for desired number of sunbursts.</p> <p>Step 2: Cover your fabric with the desired amount of elastic bands.</p>
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<p>THE CRACKLED</p> <p>Step 1: Scrunch fabric into a crumpled mound.</p> <p>Step 2: Randomly wrap elastic bands around your fabric.</p>	<p>THE STRIPED</p> <p>Step 1: Pleat and fold fabric either vertically or horizontally.</p> <p>Step 2: Use rubber bands to secure pleated fabric, evenly spacing rubber bands and adding as many as desired.</p>	<p>THE MARBLE</p> <p>Step 1: Place marbles on your fabric and then pull the fabric around them.</p> <p>Step 2: Wrap an elastic band around the marble. Repeat until you have as many as you wish on your work.</p>
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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



Patchwork Block
Pattern Inspiration

RIBBON STAR BLOCK

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.

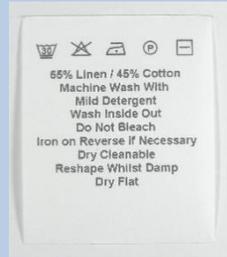
The tradition of the patchwork we know today was taken to America by the Pilgrims.

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**.

CARE INSTRUCTION LABELS

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

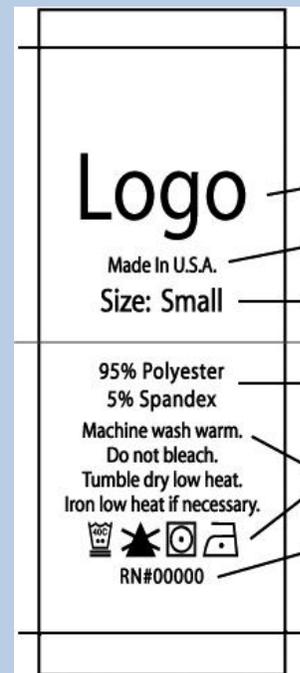


Reasons to have care labels:

- 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.

Wash Symbols																									
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CLOTHING LABELS



- Brand/Designer
- Country of origin
- Size of product
- Fibre content
- Care instructions with symbols
- Registered Identification Number - Manufacturer

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.



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.

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.

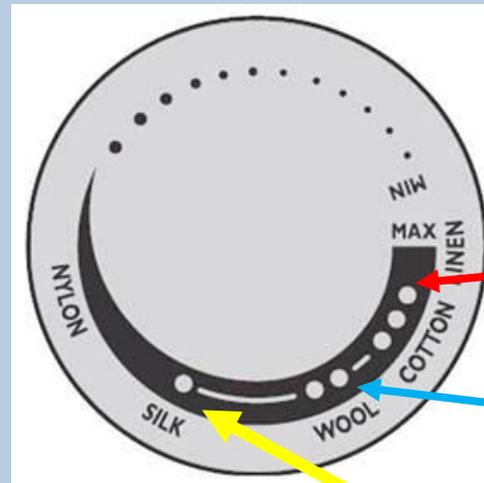
Ironing helps to remove creases. Irons are used for pressing too. Pressing is when you want a crease to stay in a fabric; on a collar for example or a pleat down the front of a pair of trousers.

In industry, ironing is done by hand using large steam irons.

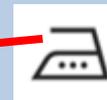
Another use for irons is to apply the interfacing material Bondaweb which can be used for the decorative technique – Applique. Bondaweb requires heat to activate the adhesive within it.

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



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.

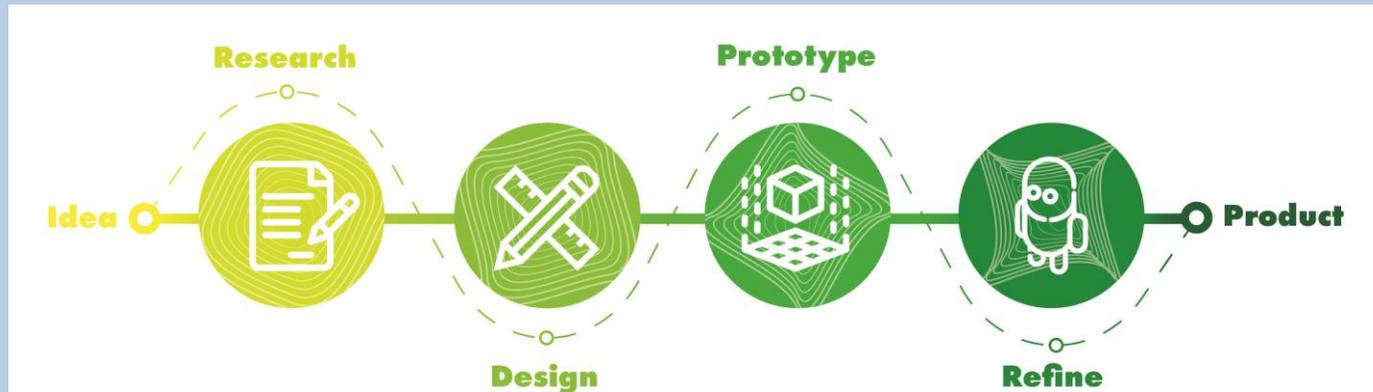
Make sure that the iron is switched off and always placed securely on the board when not in use.

Year 8 Design Technology Knowledge Organiser – Product Design: Memphis Table Lamps

What does a 'Product Designer do'?

- **A Product Designer, at it's core, is a problem solver.**
- A Product Designer is someone who uses the different facets and tools of design to create and execute a solution that solves for a user's experience deficiencies.

Product Design Process



DESIGN BRIEF

You are the owner of a small product design agency, you have been asked to create a small showcase piece to go on display at a design festival over the summer.

You have been asked to design and make an eye-catching table top lamp. This must be constructed using recyclable and sustainable materials.

The design festival this year focuses on the work of the designers associated with the design movement "Memphis". Your designs should reflect the movement and be interesting and engaging.

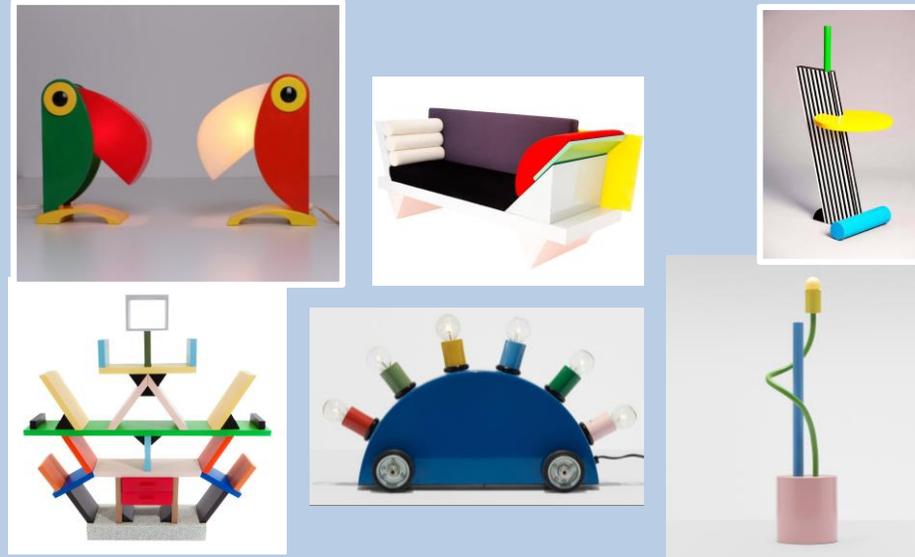
KEY TERMS	DEFINITION
Graphic Design	The art or skill of combining text and pictures in advertisements, magazines, or books.
Design Process	An approach for breaking down a large project into manageable chunks.
Target Audience	A particular group at which a product is aimed towards.
Design Brief	Outlines 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 .

Existing Product Research: Table Lamps



EXISTING PRODUCT ANALYSIS: Product analysis means studying how well a product does its job. It is a form of primary research and involves looking at existing products, working out how they were made and seeing what features might be useful to any possible new design.

Designers start by exploring and evaluating the work of others through technical analysis of products. They can then design products that are an improvement upon a current product, or design something that takes the best features and combines them.



ETTORE SOTTASS



- The Memphis Design movement emerged in the 1980's.
- They started as a group of Italian architects that challenged the idea that products had to follow conventional colours, shapes and patterns.
- It's known for its use of bright neon, primary and pastel colours, geometric shapes, and bold, repetitive patterns.
- A key designer of the movement was Ettore Sottsass.
- The design movement focused on putting personality back into simple products by making them look unique.
- Memphis design has been used as inspiration for product and interior design.
- Their style was inspired by Art Deco and Pop Art styles.

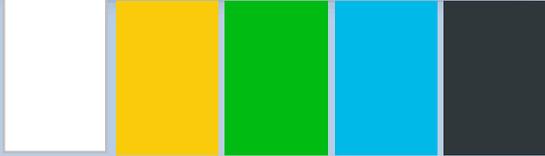
COLOURFUL
GEOMETRIC
PLAYFUL
SHAPES
ITALIAN
BRIGHT
BOLD
1981



Ettore Sottsass was an Italian architect and designer during the 20th century. His body of work included furniture, jewellery, glass, lighting, home objects and office machine design, as well as many buildings and interiors. His style was defined by bright colour choices, statement pieces and decoration. Ettore Sottsass was an iconic figure in design history as one of the founders of Memphis Design.

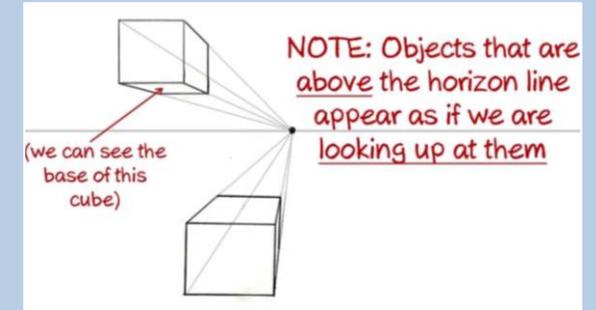
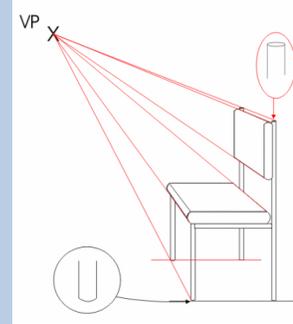
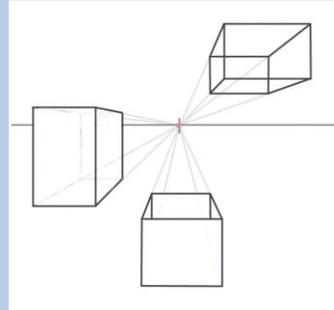
COLOUR PALLETS

Memphis design combines colours and patterns which clash making the designed pieces eye catching and original.



ONE POINT PERSPECTIVE

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



Here's a list of useful vocabulary that is frequently used when describing a one point perspective drawing.

- **Parallel** – Parallel lines are lines that never touch, even if they are extended indefinitely.
- **Horizontal Lines** – Lines drawn from side to side level with the horizon. Horizontal lines will be parallel the top and bottom edges of your paper.
- **Vertical Lines** – Lines drawn up and down and perpendicular (right-angled) to the horizon. Vertical lines should be parallel to the sides of your paper.
- Make sure all the vertical lines are upright and parallel to each other. Make sure each horizontal line is sideways and parallel to each other.
- **Slanted Lines** – Lines that are neither vertical nor horizontal; [slanted](#) lines are diagonal.
- **Horizon Line** – The horizon line is a special horizontal line that represents eye level to the viewer.
- Most of the time the horizon line will be imaginary so while you should include it you should draw it lightly so it can be erased or drawn over later on.
- **Vanishing Point** – A point on the horizon line where all perspective lines meet.
- The vanishing point exists on the horizon line. Note: it doesn't have to be in the middle of the paper.
- **Perspective Lines (orthogonal lines)** – The lines that meet at the vanishing point. Perspective lines are parallel in real life but converge in a one point perspective drawing.
- **Plane** – A [plane](#) is a flat, two-dimensional surface with no thickness. A cube, for instance, has 6 planes.
- **Form** – A form is a 3-D object, it contains volume and three dimensions.

What is PSHCE? Personal Social Health Citizenship Education

Our aim in PSHCE is to guide you, support you and give you as much information as we can so that you can make informed decisions and keep yourselves safe.

There are many different topics that we will cover from Year 7 all the way through to Year 11.

Drugs Alcohol Mental health Healthy relationships Friends Bullying Body image How media affects our mental state Sexual health Committed relationships Politics and How to vote Careers and Aspirations How to write a CV and Interview skills Consent Laws Cyber safety Racism Diversity and being part of a community Gender issues Sexuality How our bodies develop and change with age Support with Option choices for GCSE Explore Post 16 options Gangs and Radicalisation Democracy Contraception Keeping yourself safe

We can't make choices for you. You will have to make decisions for yourself. But we want you to have the best advice and knowledge so that you can become the best version of yourselves

Some of the topics you will learn about, you will feel that they are not relevant to you. And you are right, at the moment they are probably not. But our job is not to teach you for just here and now it is also to give you the chance to explore topics that you will need to know about when you go to college, or university or start work.

As a grown up, you don't always get a chance to discuss how you feel about issues, the world or get the chance to see why others around you see the world differently. So we give you the chance to do that in PSHCE

Quite often you will be in a Math lesson, Geography lesson or PE lesson and things that we learn in PSHE will also be relevant in those lessons.

When we learn about child labour laws in Year 8 we will be talking about what it was like before we had those laws and looking at Victorian Britain (History). When in year 9 we are looking at Radicalisation and Gang culture we will be also learning about this in (English) when we are reading Romeo and Juliet.

Many of the things you learn in the PSHE curriculum are also learnt in other areas of the school and you will be able to bring that knowledge with you to support your learning in this room and also help you see the relevance to that learning in everyday life.

CLASSROOM RULES IN PSHCE

No Question is silly or stupid

Everyone will have differing opinions and that is ok

We must always listen and not judge

Give each other a chance to talk

PSHE classrooms are a safe place

If you find it hard to ask a question out loud then you can ask it quietly to your teacher, or you can put a question in the question box in P1

This is our classroom and we as teachers will learn just as much from you as you do from us.

This is OUR classroom



WOULD THE WORLD BE A BETTER PLACE IF THE INTERNET HAD NEVER BEEN INVENTED?

Within CT you will have covered a lot about how to stay safe on line and about keeping your data safe.

As part of your PSHE education it is important that we have a chance to explore the emotional impact of this medium of communication whether it be positive or negative.

Not only is Esafety about making sure you have not shared personal information online it is also about the way social media impacts Relationship education, Self confidence and your legal rights and responsibilities. We will be looking at how the online world impacts the real world and how you can look after not only your physical health but your mental health. We will also be exploring how isolation and the pandemic has exacerbated the negative issues linked to social media.



Once an image has been sent the sender of that image has no control over what happens with that image?

Within 5 minutes a whole class could have seen it.



Then The whole school



Then your parents



Someone from the other side of the world!



Always do the Granny Check



1 in 3 children have been a victim of cyberbullying.



There were over 12,000 counselling sessions with young people who talked to Childline about online issues last year



1 in 4 children have experienced something upsetting on a social networking site.



The definition of Sexting

Sexting is when someone shares sexual, naked or semi-naked (explicit) images or videos of themselves or others, or sends sexually explicit messages.

What is illegal then?

Taking an explicit photo or video of yourself or a friend.

Sharing an explicit image or video of a child, even if it's shared between children of the same age

Possessing downloading or storing an explicit image or video of a child, even if the child gave their permission for it to be created

Also, just **asking** someone to send you an explicit photo is illegal (even if one is never taken and sent)

HOUSE CHARITY EVENTS



Living in our world topic (Environment and charity work)	Definition
Eco Council	The Trafalgar school Eco Team is dedicated to bringing about real change both within our school community and local environment.' Our aim is to educate others about the need to look after and protect the world around us.
Carbon footprint	The amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, organization, or community.
Impact on the environment	Environmental impact refers to the direct effect of socio-economic activities and natural events on the components of the environment.
Deforestation	Deforestation or forest clearance is the removal of a forest or stand of trees from land that is then converted to non-forest use. Deforestation can involve conversion of forest land to farms, ranches, or urban use. The most concentrated deforestation occurs in tropical rainforests.
COP26	COP26 is the next annual UN climate change conference. COP stands for Conference of the Parties, and the summit will be attended by the countries that signed the United Nations Framework Convention on Climate Change (UNFCCC) – a treaty that came into force in 1994.
Pollution	Pollution is the introduction of contaminants into the natural environment that cause adverse change. Pollution can take the form of chemical substances or energy, such as noise, heat, or light. Pollutants, the components of pollution, can be either foreign substances/energies or naturally occurring contaminants.
Charity	An organisation set up to provide help and raise money for those in need
House charities	A set of charities that have been voted on by the student body to support each academic year.
Fundraising	The seeking of financial support for a charity, cause, or other enterprise.
Awareness	Concern about and well-informed interest in a particular situation or development.
Charity	An organisation set up to provide help and raise money for those in need
House charities	A set of charities that have been voted on by the student body to support each academic year.

Trafalgar Eco Council
Support the events or become a rep yourself.



Goals for 2021/2022

TARGET 1 : Reduce our plastic consumption

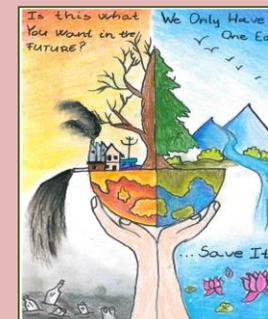
- Eliminating as many single use plastic items in the canteen as possible
- Running a competition to recycle the most amount of plastic bottles
- To design a school reusable water bottle and travel mug
- Educate students on the negative impacts of plastics on our planet

TARGET 2 : Improve our Global diversity

- Set up pen-pals with schools in Spain to discuss our eco activities
- Gain inspiration from schools across the world on their eco-practices
- Educate ourselves on Fair trade practices
- Increase the amount of fair trade practices in our school

TARGET 3: reduce our energy consumption

- Run a 'great green day' in which we reduce our energy consumption by having no access to computers, no printing, and promotion of outdoor learning
- Create a great green code which educates pupils on practices to reduce our energy consumption**
- Purchase smart monitors to locate around the schools to allow pupils to see live data on their energy consumption
- Overall aim to lower our School's energy bills



There is no planet B!



Careerpilot is a free website used across the South of England. Helping students to find out about all of their options. Important for finding out more about jobs and courses & support when making key decisions like choosing GCSE options. The website can be used to save your choices – you can bookmark pages to come back to later. You can record the jobs that you are interested in etc. in Career Tools and that creates their report.

Where to start? You start with you!

Y8

1. Register on Careerpilot

2. Skills Profile



3. Explore jobs

4. Start with a subject

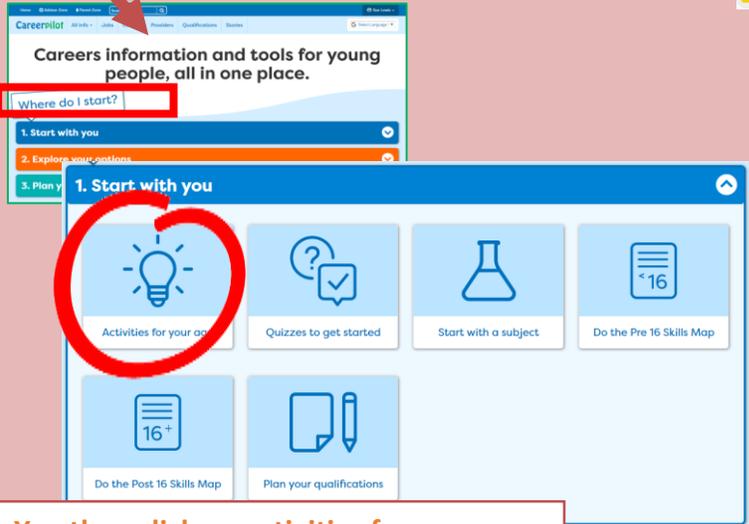
5. Explore choices at 14/GCSEs

Sector: Animal:

- Vet
- Animal nurse
- Farmer
- Dog groomer

You will begin this work in class, but you can access Careerpilot from home, as long as you sign in, at anytime and it will log all the things you are looking at for you to go back to at a later date.

We are not expecting you to know what you would like to have as a career in Year 7. What Career Pilot helps us to do at this early stage is to start exploring. It helps us to see what is possible and what goals we may like to set ourselves to reach those dreams. You are all individual and very capable, let us help you towards a life fulfilled.



You then click on activities for your year group.

