The Trafalgar School at Downton

Knowledge Organiser

Year 8: Terms 1 and 2

2024/2025

Contents

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

Being Trafalgar

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

GREAT PEOPLE - GREAT TEACHING - GREAT OUTCOMES

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

To help yourself you should:

- Keep your Knowledge Organisers as tidy as possible

- Highlight parts of them as you go through learning lessons or add in post-it notes etc. to help you learn key knowledge

- Keep your used Knowledge Organisers safe at home. If you have used them since Year 7 you will end up at the end of Year 11 with 14 Knowledge Organisers. Line them up on your shelf at home and keep coming back to them for your revision, homework and learning

- Show them to your parents and talk through with them the facts and knowledge you have learned about in lessons – help them to learn new things too!

- Take your Knowledge Organiser for the term you are in to school every day and use it in every lesson you can!

Using a Knowledge Organiser well

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

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

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

What do I do with my Knowledge Organiser at the end of the term?
You don't have to carry your Knowledge Organiser around with you anymore but you should keep it somewhere safe where you can easily get it out and use it. Remember that the information on the Knowledge Organiser includes things you will need to remember for your GCSE exams, so your teachers will continue to quiz you on it.
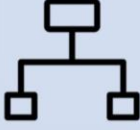
Why is a Knowledge Organiser important?
GCSE specifications require students to memorise more facts, equations, quotations and information than ever before and there are things you will learn right from the start of year 7 that you will need to know in year 11 when you sit your GCSE exams – the Knowledge Organiser helps you to identify the things that you need to try and commit to your long term memory and return to over and over again during your time at secondary school. There are also things that we think it is important you learn about and remember that might not be in a GCSE exam but represent useful knowledge for life.

The Trafalgar School AT DOWNTON

How to use a knowledge organiser – step by step guide

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

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

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

COMMON MISTAKES

PROPER GRAMMAR

ALOT SAD

YOU SHOULD WATCH YOUR WEIGHT

I eat Alot.   I eat a lot.

IT SAVES LIVES.

with the apostrophe

without the apostrophe

it's   **its**

Contraction of "it+is" or "it+has"

It's great to see you.
It's been fun.
It's clear to see.

Possessive form of "it"

The tree dropped its leaves.
The pencil lost its point.
A robot recharged its battery.

SENTENCES

Use fronted adverbials:

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

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

Use a two and then three word sentence:

It hurt. I was dying!

Snow fell. Flakes floated precariously.

Use anaphora:

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

Use epiphora (epistrophe)

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

Use a range of sentence structures:

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

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

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

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

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

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

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

Use a tricolon (tripartite list):

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

Snap! Crackle! Pop! (Rice Krispies slogan)

Use a conditional sentence:

When people smoke cigarettes, their health suffers.

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

Use paired adjectives to describe a noun:

Take a look at this bright red spider.

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

Use anadiplosis (yoked sentence):

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

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

Use different sentence types:
The wind is blowing. (declarative)

Put your pen down. (imperative)

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

Pollution is killing us! (exclamation)

Use discourse markers to begin paragraphs and start/link some sentences:
First of all, To begin with, Firstly,

Therefore, Consequently, Hence, As a result,

Furthermore, In addition, Additionally, Moreover,

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

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

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

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

PUNCTUATION PIT STOP

Full Stop

Full stops are used to:
1) mark the end of a sentence.
Carefully, he kicked the ball into the goal.
2) show when a word has been abbreviated.
Saint Peter's Road is on the High Street.
→ St. Peter's Road is on the High Street.

COMMAS

Commas are used to separate:
1) items in a list .
Bert, Ernie and Elmo are my three pet rats.
2) dependent clauses and phrases.
While I was in the bath, the cat scratched at the door. That meant, because I was on my own in the house, I had to get out to let him in. Thankfully, I had a towel handy!

Quotation Marks

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

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

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

Question Mark

Question marks are used at the end of direct questions instead of a full stop.
What is your favourite food?
How do you feel today?
An indirect question ends with a full stop rather than a question mark:
I'd like to know what you've been doing all this time. I wonder what happened.

Exclamation Mark

Exclamation marks express strong emotions: forcefulness, commands, anger, excitement, surprise etc.
Don't buy that car! Stop telling me what to do! I'm free! You're late! She actually won!
They're also used for most interjections:
'Hi! What's new?' 'Ouch! That hurt.'
'Oh! When are you going?'

Semi-colon

Semi-colons are used to separate two sentences that are closely related:
It was winter; the snow was falling heavily.
They can also be used to separate items in a list made of longer phrases. I have been to Newcastle, Carlisle, and York in the North; Bristol, Exeter, and Portsmouth in the South; and Cromer, Norwich, and Lincoln in the East.

Colon

Colons are used to:
1) begin a list.
I have three pet rats: Bert, Ernie and Elmo.
2) indicate that what follows it is an explanation or elaboration of what precedes it.
Unfortunately, the weather forecast was wrong: it rained all day!

Apostrophe

An apostrophe is used to show:
1) omission - where a letter or letters has been missed out.
does not → doesn't   I am →I'm
2) possession – when some thing/one owns something. Thankfully, they played Susan's game. Interestingly, David's house has no garden, but Susan's house does.

Dash —

Dashes are used for parenthesis: a word or phrase inserted as an explanation or afterthought into a passage which is grammatically complete without it. E.g.
Last year, they roasted the winning brisket — the size of a pillow — in a mighty clay oven. Paul felt hungry – more hungry than he'd ever been.

Brackets

Brackets are used in pairs for parenthesis: a word or phrase inserted as an explanation or afterthought into a passage which is grammatically complete without it. E.g.
Andrew Jacklin (last year's losing finalist) is expected to win this heat.
Tigers are carnivores (meat eaters)!

Ellipsis

Ellipsis is used to:
1) show a pause or hesitation in someone's speech or thought.
I don't know … I'm not sure.
2) build tension or show that something is unfinished.
Looking up, Paul couldn't believe what he saw …

PUNCTUATION PIT STOP

Writing the text for a Leaflet/Guide

Stay Safe and Sound Online
(clear/apt/original title)

Manage your online reputation
(subtitles)

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

Privacy Matters
(effectively/fluently sequenced paragraphs)

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

….

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

Text for a Speech/Talk

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

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

(a clear address to an audience)

…

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

(rhetorical indicators that an audience is being addressed throughout)

…

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

Thank you.

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

Writing Forms

Article

Andy Murray's Appliance of Science
(clear/apt/original title)

By Jim White
(by-line)

If the Caledonian superman wins Wimbledon this year, it will be thanks to 12 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!
(introductory (overview) paragraph)

Sample Check
(sub-headings)

Today, before he even steps out on to the Centre Court for his Wimbledon semi against the huge-hitting Pole Jerzy Janowicz, Murray will have been subject to several of these. He does it 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 partly be thanks to the bloke who inspects his wee.
(fluently sequenced paragraphs)

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

Writing to Review   Feeling Icy About Frozen?
(clear, engaging title)

(effective introduction)

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

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

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

(use topic specific language)

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

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

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

Writing a formal letter

writer's address →
35 Hibiscus Crescent
Andover
Hants
SP10 3WE

221B Bakers Street
London
NW1 6XE
← reader's address

date →
20th February, 2020

Dear Sir or Madam
← Formal Salutation: Sir/Madam/Mr Roderick/Mrs Roderick

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

Of course, I will imp... that students won't spend all morning choosing what to wear or beg parents for clothes that... 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 individuality, yet this seems to be in contradiction of the message enforced uniform sends to us.

fluently sequenced paragraphs

Furthermore, …

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

Description of Place

spatial discourse markers → ← adjectives

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

Metaphor, simile, personification

Like a queue of taxi cabs, the vehicles waited patiently... 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

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, feeling its way through the cracks in windows and doors, stroking the upholstery of the rotting seat as it passed.

sensory description

← spatial discourse markers

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

adjectives

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

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

"Kuno!"

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

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

His image faded.

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

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

Journey Description

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

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

Once more the bus door opens and, as if I've lifted my head out from underwater, I can hear the street bustle, smell the takeaways, taste the diesel fumes.
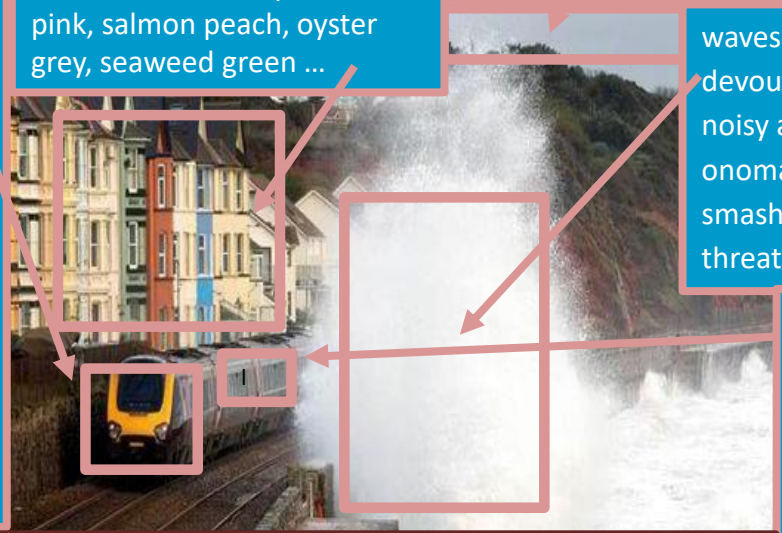
Personify train - a victim moving along railway line, past houses, towards destination - metaphor: caterpillar train sways and pitches precariously along the track to its daily destination. Snatching bites, the sea salt nips at its metal skin as it passes, gnawing at it, killing it. Rattles. Will it survive?

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

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

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

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

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

Fail to Plan Plan to Fail!

Intro: Here you will find everything you need to know about buying a goldfish. Follow this advice to …

First of all, research the fishes needs and best fish breeds …

Next, decide where to put … bedroom could be best habitat for your fish because … However, it might be better to …

After this, it's back to the research. Make a list of … Don't …. Do …

Linear flow and vertical charts are useful for planning writing that has to follow a step-by-step process. Each section/shape = a paragraph.
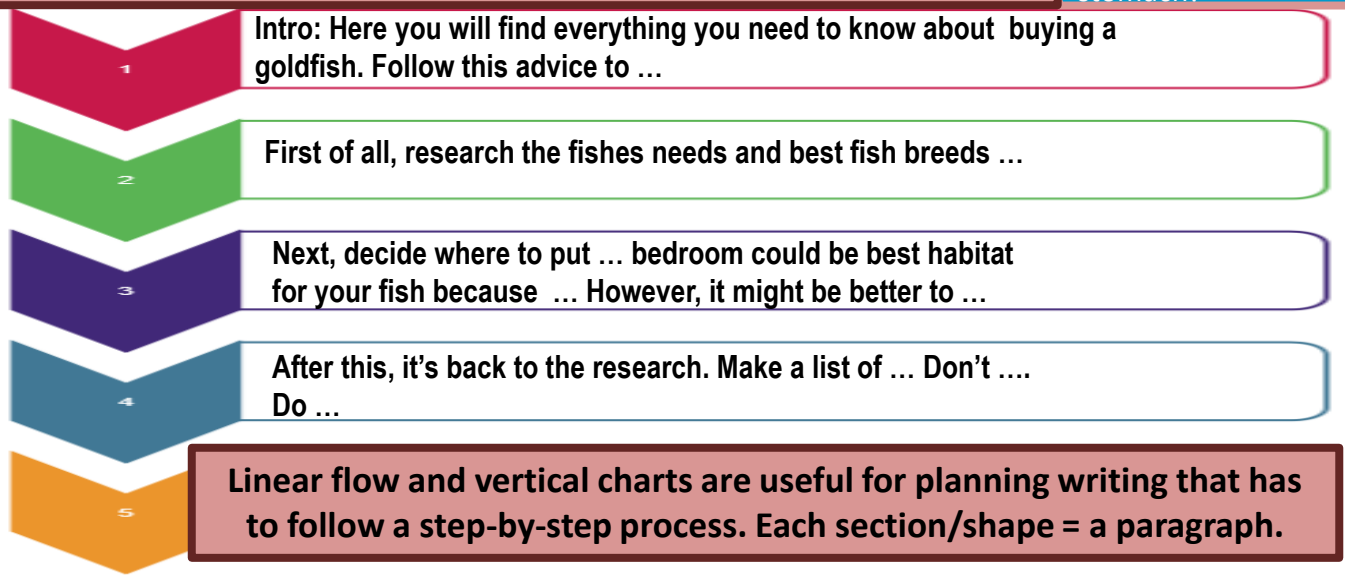
The Grid Plan is good for making sure you include lots of different methods, or to compare two/more things side-by-side. Each row/column = a paragraph.

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

Climax (turning point, height of action/problem at its worst):
- use exciting adverbs and verbs;
- accelerate pace and heighten tension using lots of shorter sentences.

Fail to Plan Plan to Fail!

Rising Action (build towards conflict):
- build on character, setting, plot;
- introduce a complication/problem;
- build tension/ excitement;
- use interesting adjectives, sensory description, figurative language etc.

Falling action (turning point, height of action/problem at its worst):
- what events happen to solve the problem?

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

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

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

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

Yours Sincerely

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

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

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

P1

Form: Letter
Audience: Headmaster
Purpose: Argue change uniform

P2

P3
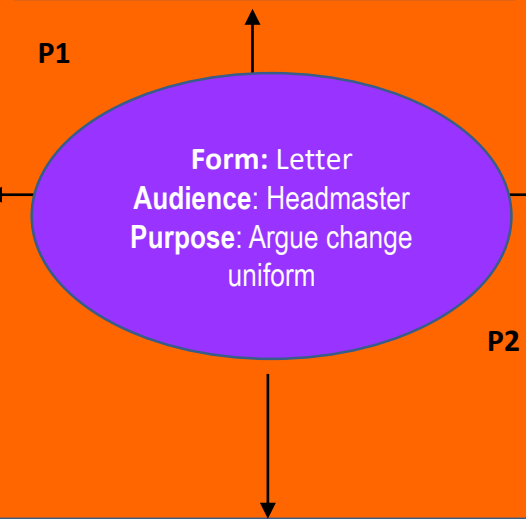
Counter reason: cost cheaper as not designer or from shops making huge profit
Argument reason: cost of blazers, trousers and skirts from school uni shop expensive as no competition, own clothes mix 'n' match so fewer outfits needed, wear weekends so more use,
Supporting example: emotive language: force poorer families to go without, statistics

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

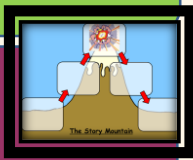| Writing Purposes	Key Language/Structural methods	Chocolate Model!
Inform: tell the reader <u>what</u> they want/need to know.	➤ Use interesting facts details; ➤ use brackets to explain technical **terms**.	**Interestingly, chocolate** is actually made from the seeds of a cacao tree. After fermentation, 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 <u>how</u> and <u>why.</u>	➤ 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 <u>picture</u> it and <u>imagine</u> the <u>experience</u>.	➤ 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 <u>a tale</u> that will have them <u>hanging on your every word</u>.	➤ 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 <u>get the reader to do as you ask</u>/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: <u>present two sides</u>, but ensure <u>your side appears strongest</u> so <u>reader agrees</u> 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 <u>warn</u> and <u>guide</u> reader, but <u>reassure</u> 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.
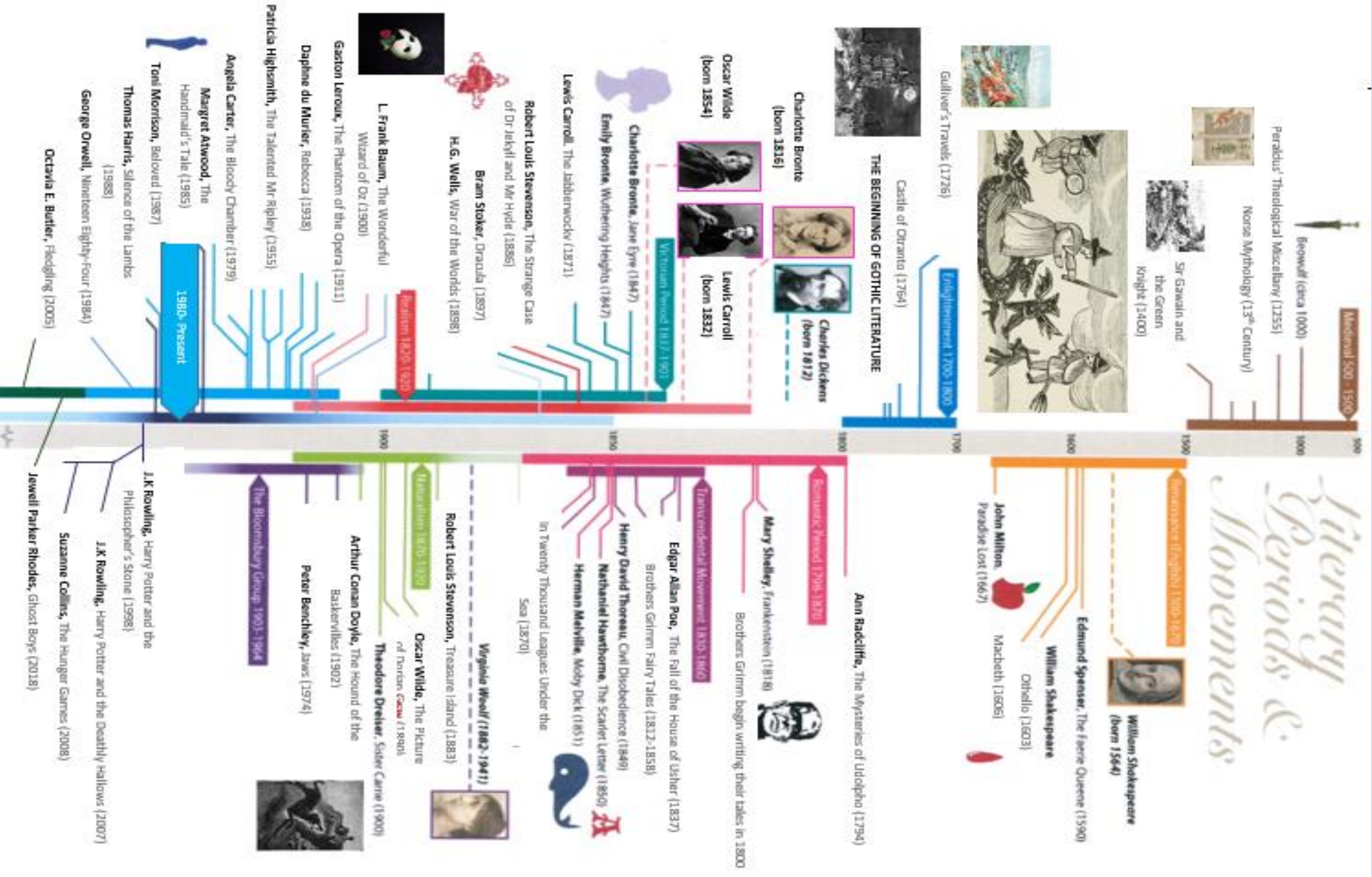
Terminology	Definition
Characterisation	This is the aspects and traits of a character which distinguish it from another. Characters are constructed through features, traits and appearance.
Setting	The place or type of surroundings where an event or novel takes place
Atmosphere	This is the pervading tone or mood of a place, situation, or creative work. The choice of setting and character will often impact the atmosphere of a text.
Pathetic Fallacy	The representation of human feelings and emotions through the use of weather and seasons. The use of weather often adds to a specific tone or atmosphere of a text.
Personification	The attribution of a personal nature or human characteristic to something non human.
Semantic Field	A group of words which are semantically related (so they often mean similar things or surround a specific idea)
Simile	A figure of speech involving the comparison of one thing with another thing of a different kind- **this will always be done using 'like' or 'as'**
Metaphor	A figure of speech in which a word or phrase is applied to or compared to an object or action which it cannot literally be compared to.
Imagery	Visually descriptive or figurative language used within a text or literary work to create a clear image or idea.
Juxtaposition	Where two things are seen or placed close together in order to have contrasting effects.
Motif	When an idea or focus is dominant or recurring within an artistic work.

| Literary technique	Definition	Example
Alliteration	When a sentence or phrase has many words or syllables that start with the same <u>sound,</u> not necessarily the same letter e.g. f & ph but not t &th.	The fair breeze blew, the white foam flew, The furrow followed free;
Sibilance	A type of alliteration where the repeated consonants are 'hissy' sounds – s, sh, z.	She sells sea shells by the sea shore. 'And the silken sad uncertain rustling'. Six zany zebras.
Assonance	The repetition of similar vowel sounds within a sentence.	D<u>o</u> y<u>ou</u> like bl<u>ue</u>? - using 'o', 'ou', 'ue' H<u>e</u> rec<u>ei</u>ved thr<u>ee</u> <u>e</u>mails today. - using 'e', 'ei', 'ee' and 'e'
Onomatopoeia	A word that describes and mimics a sound.	Pop, whizz, fizz, crackle, slurp, pow, whoosh, crash.
Repetition	When words or phrases are repeated.	Let it snow, let it snow, let it snow. "Oh, woeful, oh woeful, woeful, woeful day!"
Rhetorical question	A question asked to make a point and where no answer is expected.	Are you kidding me?
Oxymoron	A figure of speech in which contradictory terms appear next to one another	'The work on my desk was an organised mess' 'He let all of his fears out in one silent scream'
Noun	A word used to identify any of a class of people, places or things	Common noun: tree, cat, wolf Proper noun: Mary Shelley, Dracula Abstract noun: fear, love, pain
Adjective	A word describing the attributes of a noun	Never in the delirious dream of a disordered brain could anything more savage, more appalling, more hellish be conceived than that dark form and savage face.
Adverb	A word or phrase which describes the way in which an action (verb) is done.	White-crested waves beat madly on the level sands and rushed quickly up the shelving cliffs.
Verb	A word used to describe an action, state or occurrence.	The snake's tail whipped across the floor again. Harry ducked. Something soft hit his face. The basilisk had swept the Sorting Hat into Harry's arms
Hyperbole	An exaggerated statement not meant to be taken literally, but used for emphasis or humour.	I have told you a <u>million</u> times.

Written by an unknown author c. 700-750, Beowulf tells the tale of a Scandinavian hero who gains fame by vanquishing three different monsters: Grendal, his mother and a dragon. The tale inspired many writers!
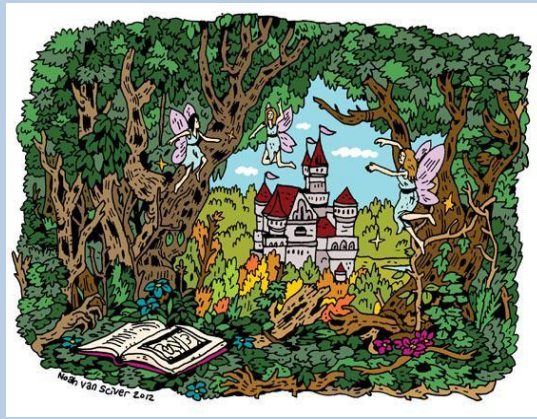

The Brothers Grimm are best known for their folklore tales following ideas of the 'evil stepmother' and evil in women- Disney have widely been inspired by their writing, although they leave out the gruesome truths!

Frankenstein, written in 1818 is perhaps the most famous 'Gothic novel', becoming the catalyst for the exploration of the unknown and other. Within her novel, Shelley explores the idea of what makes something evil.
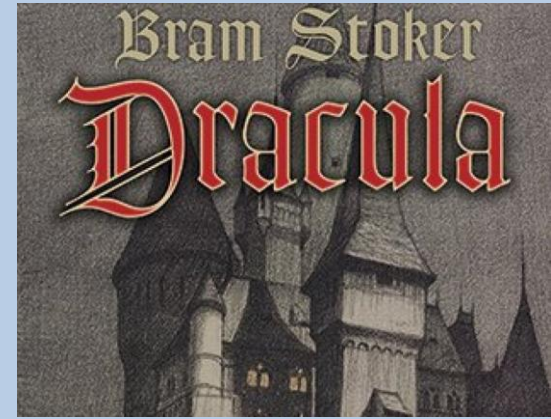
Stoker's Dracula, written in 1897, was the novel which encouraged societies interest in vampires! Dracula, a blood thirsty vampire, holds many supernatural powers and uses these to commit evil deeds in order to gain power and control.
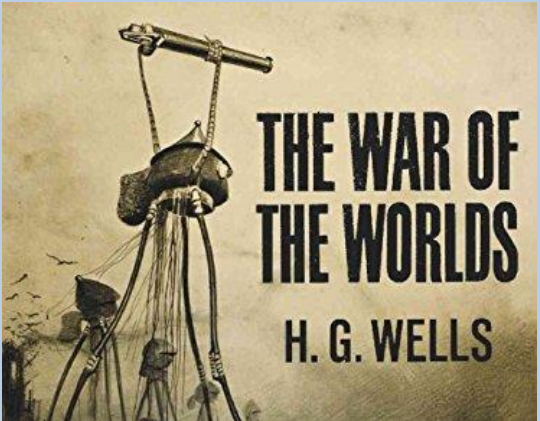
Written in 1898, War od the World chronicles the events of a Martian invasion and therefore explores ideas of how aliens and science hold the potential of evil and destruction.

The Hound of the Baskervilles is one of the many Sherlock Holmes tales. Here, Holmes and Watson investigate the murder of a man which leads them to wonder whether they have discovered a murderous hound.

The Hunger Games explores a different kind of evil- the evil of those who hold power. Collins explores the misuse of government power as they use their position to control and murder their citizens.

Harry Potter explores a multitude of evil characters. From those who are inherently evil and those who are evil out of fear, Rowling explores ideas of what makes people evil and the role power seems to play in this.

Monsters and Evil in Literature

The themes and concepts of Monster Literature are rooted in 18th century Gothic literature. Most literature focusing on the appearance and existence of monsters emerged after the release of Mary Shelley's Frankenstein.
Monsters and evil did, however, appear in literature a long time before this. Pre 18th century monsters normally link to some form on creature which is not human and links to ideas of 'otherness' or the Supernatural. We can see this when we study Beowulf and the Jabberwocky.

However, ideas of what monstrosity and evil are have somewhat evolved since the 19th century. Now, audiences and readers root for and seek out monsters that are represented in human form. This is because we are interested in the idea of nature vs nurture.

NATURE: This is what we think of as aspects of ourselves we genetically inherit- it is biology, we don't control it!
NURTURE: This is generally taken as the influence of external and surrounding factors once we are born.

Gothic Conventions

Gothic literature is characterized by an environment of fear, the threat of the supernatural or unknown, and elements of mystery and horror.

Settings tend to be isolated or abandoned, and seem to be inescapable for the characters involved. In classic Gothic texts, setting consists of a castle or manor which is far away from any city or civilization.

Common **themes** and motifs of the Gothic include:
- Power
- Isolation
- Confinement
- Good vs evil
- Science
- Revenge
- Breaking social norms

Gothic villains or monsters often have links to the unknown and unexplainable. They tend to be seen as an outsider, or 'other' who does not fit in with social expectations and ideologies.

Many of the texts we look at take on most, if not all, of these conventions- even the modern texts we study are structured around the Gothic.

Example Annotations- Dracula |

Main text (Dracula extract):

Shortly before ten o'clock the stillness of the air grew quite oppressive, and the silence was so marked that the bleating of a sheep inland or the barking of a dog in the town was distinctly heard, and the band on the pier, with its lively French air, was like a discord in the great harmony of nature's silence. A little after midnight came a strange sound from over the sea, and high overhead the air began to carry a strange, faint, hollow booming.

Then without warning the tempest broke. With a rapidity which, at the time, seemed incredible, and even afterwards is impossible to realize, the whole aspect of nature at once became convulsed. The waves rose in growing fury, each overtopping its fellow, till in a very few minutes the lately glassy sea was like a roaring and devouring monster. White-crested waves beat madly on the level sands and rushed up the shelving cliffs; others broke over the piers, and with their spume swept the lanthorns of the lighthouses which rise from the end of either pier of Whitby Harbour. The wind roared like thunder, and blew with such force that it was with difficulty that even strong men kept their feet, or clung with grim clasp to the iron stanchions. It was found necessary to clear the entire piers from the mass of onlookers, or else the fatalities of the night would have been increased manifold. To add to the difficulties and dangers of the time, masses of sea-fog came drifting inland—white, wet clouds, which swept by in ghostly fashion, so dank and damp and cold that it needed but little effort of imagination to think that the spirits of those lost at sea were touching their living brethren with the clammy hands of death, and many a one shuddered as the wreaths of sea-mist swept by. At times the mist cleared, and the sea for some distance could be seen in the glare of the lightning, which now came thick and fast, followed by such sudden peals of thunder that the whole sky overhead seemed trembling under the shock of the footsteps of the storm.

Annotation boxes:

- Adjective suggests a harsh and controlling nature.

- Motif repeated- silence and stillness might suggest a calm atmosphere but also increases tension.

- Triple used to emphasise the strange nature of the sound which has overtaken the silence.

- Sudden shift in focus through use of short sentences immediately increases drama and sense of terror

- Adjective suggests that nature is violent and volatile- it is therefore dangerous and could cause harm.

- Use of simile reinforces idea of extreme power and violence of the sea. It is being compared to destructive weather forces.

- Metaphor shows that death is working with the storm in order to grab those waiting below.

- Pathetic fallacy of thunder and lightning used to create a sense of fear and terror which seems relentless.

- Personification used here to show even the sky seems fearful of the events below. To describe the storm as having footsteps suggests it may be chasing a victim.

- Motif of fog and lack of vision gives impression of uncertainty and increases eerie atmosphere.

- Simile used to highlight idea of the power of the sea as it is being compared to a predator- the sea again shown to be seeking prey.

- Personification used to emphasise the aggression and threat of the sea. It seems as though the ocean wants to harm people.

Command Words in Maths questions

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

Simplify
Simplify the given expression.

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

Factorise
Insert brackets by taking out common factors.

Factorise fully
Insert brackets by taking out all the common factors.

Expand
Remove brackets.

Expand and simplify
Remove brackets and then collect like terms.

Solve
Find the solution of an equation or inequality.

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

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

Prove algebraically
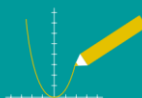Use algebra in the proof.

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

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

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

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

TECHNICAL VOCABULARY

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

Calculate
A calculator and some working will be needed.

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

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

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

Describe
Write a sentence that gives the features of the situation.

Complete
Fill in missing values.

x	y
-1	-3
0	1
	3
2	5

Give a reason
Must be clear and accurate reasons. If the reasons are geometrical then make sure you:
✔ provide a reason for each stage of working (if required)
✔ use correct geometric terminology.

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

Justify
Show all working and/or give a written explanation.

Websites to help you with understanding and revision

SparxMaths.com

CorbettMaths.com

Trafalgar Maths Site

Maths Genie

Maths Bot

Harder Ratio Problems – Sparx M801,M525, U865

Ratio – is used to <u>compare</u> two or more amounts.

Jack has £160 and Gill has £240

These amounts can be written as a ratio,

J   :   G   or   G   :   J

160 :   240   240 :   160

Simplifying a Ratio – you can simplify a ratio by eventually dividing the numbers by the HCF

J   :   G   or   G   :   J

÷10 160 : 240   240 : 160

÷ 80

16   :   24   24   :   16

÷ 8

2   :   3   3   :   2

| 80 | 80 | 80 | 80 | 80 |

Sparx M885   Corbett Maths Video 269

Sharing an Amount in a Ratio

Sparx M525   Corbett video 270

Jack and Gill had £400 in total which they shared in the ratio 2:3

There are five parts (2+3 = 5)

To split this money evenly 400 ÷ 5 = 80

Jack receives 2 x 80 = £160

Gill receives 3 x 80 = £240

£160 + £240 = £400

Best Buys - using (the unit) ratio

Sparx M681, M478 Corbett video 270

Which is the best deal;

Five packets of sweets costing £2.45,

Six packets of sweets costing £3.00

or Seven packets of sweets costing £3.57?

Hint – Find the cost of one packet

Packets : Cost

5 : 2.45

(÷ 5)   1 : 0.49

49p a box

Packets : Cost

6 : 3.00

(÷ 5)   1 : 0.50

50p a box

Packets : Cost

7 : 3.57

(÷ 5)   1 : 0.49

51p a box

The five packets option is the better deal at 49p per packet

Writing in the ratio 1 : n or n : 1

You need to divide both sides by the same number in order to get the correct side down to 1.

J   :   G | G   :   J

÷ 2   2   :   3 | 3   :   2

÷ 3

1   :   1.5 | 1   :   2/3

Gill gets £1.50 for every £1 that Jack gets

Jack gets ≈ 67p for every £1 that Gill gets

Sparx M543

Sparx U578

Keywords

Proportion: a statement that links two ratios

Variable: a part that the value can be changed

Axes: horizontal and vertical lines that a graph is plotted around

Approximation: an estimate for a value

Scale Factor: the multiple that increases/ decreases a shape in size

Currency: the system of money used in a particular country

Conversion: the process of changing one variable to another

Scale: the comparison of something drawn to its actual size.

Conversion between currencies
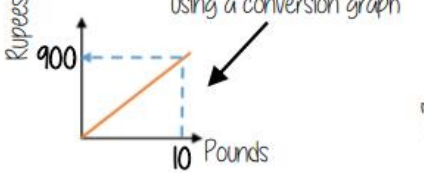
Currency is directly proportional

£1 = 90 Rupees

For every £1 I have 90 Rupees

£1 = 90 Rupees
×10 ↓ ↓ ×10
£10 = 900 Rupees

Currency can be converted using a conversion graph

Rupees
900

10 Pounds

Convert 630 Rupees into Pounds

£1 = 90 Rupees
×7 ↓ ↓ ×7   ← 630 ÷ 90 = 7
£7 = 630 Rupees
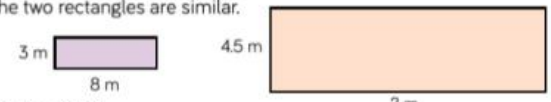
Ratio between similar shapes

Angles in similar shapes do not change. eg. if a triangle gets bigger the angles can not go above 180⁰

The two rectangles are similar.

3 m   4.5 m
8 m   ? m

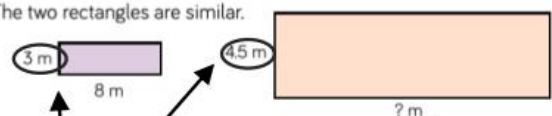Corresponding sides

3m : 4.5m
1m : 1.5 m (÷3)

8m : 12m
1m : 1.5 m (÷8)

Note Simplify to the same ratio

Conversion Graphs
Compare two variables

kilometres
80

50   miles

Labelling of both axes is vital

This is always a straight line because as one variable increases so does the other at the same rate

To make conversions between units you need to find the point to compare — then find the associated point by using your graph.
Using a ruler helps for accuracy
Showing your conversion lines help as a "check" for solutions

Understand Scale Factor

The two rectangles are similar.

3 m
8 m
4.5 m
? m

3 × 1.5 = 4.5

This is a multiplicative change

Missing length
8 × 1.5 = 12m

Use corresponding sides to calculate a scale factor

Scale factor can also be calculated by:

Bigger corresponding side
Smaller corresponding side

Small corresponding side — × SF → Big corresponding side
← ÷ SF —

Draw and interpret scale diagrams

A picture of a car is drawn with a scale of 1:30

For every 1cm on my image is 30cm in real life

The car image is 10cm

Image : Real life
×10 ↓ 1cm : 30cm ↓ ×10
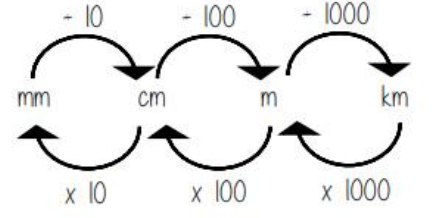10cm : 300cm

The car in real life is 210cm

Image : Real life
×7 ↓ 1cm : 30cm ↓ ×7
7cm : 210 cm

Interpret maps with scale factors

÷10   ÷100   ÷1000
mm   cm   m   km
×10   ×100   ×1000

1 cm : 250 m

Ratios need to be in the same units

1 cm : 250m
1 cm : 25000cm
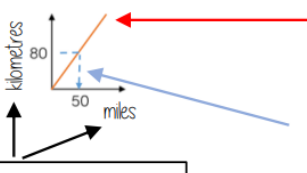
250 × 100 = 25000

For every 1cm on my map is 25000cm in real life.

Sparx M843

Sparx U519

Sparx U257

Combining Ratios

The ratio of apples :bananas is 3:5, the ratio of bananas:carrots is 3:4. What is the ratio of apples to carrots?

A	:	B	:	C
3	:	5		
		3	:	4
9	:	15	:	20

× 3

X5

Hint: Use common multiples

So A:B:C is 9:15:20   and

A : C = 9 : 20

Proportion can compare the size of one part to the size of the whole.

If a tutor group has 13 boys and 16 girls.

The proportion of boys is 13/29   The proportion of girls will 16/29

Multiplicative Reasoning is a way of comparing two things and applying this to a new situation.

Find a Multiplicative link and use it to find missing quantities.

15 mins   30/15 = 2   30 pages

? mins   210 pages

X 2

How many pages can this person read in 1 hour?

P R O P O R T I O N

The symbol ∝ means **"is proportional to"**

Direct Proportion A and B are directly proportional when as one gets larger the other gets proportionally larger.
 The ratio between these two quantities is a constant.
As a rule of thumb you could apply two tests:
 - If one quantity is zero, the other will be zero
 - If one quantity doubles the other will also double ect
If the graph of the two quantities is drawn it will always be a straight line passing through the origin.

Inverse proportion A is inversely proportional to B when one quantity increases the other will decrease proportionally.

In Maths "inverse" means the opposite of an operation.
The inverse operation of multiply is divide , and vice/versa

The inverse of A will be 1/A because × by A = ÷ 1/A

Another way of describing "A is inversely proportional to B" is to say "A is directly proportional to 1/B"

Direct Proportion
Relation between quantities whose ratio is constant

b directly proportional to a
When a = 4, b = 20   (b is 5 times a)
         20 ÷ 4 = 5
So   b = 5a   (for any values a and b)

Alternatively
        b ∝ a   "b is directly proportional to a"
        b = ka   "k is a constant"
      20 = 4k
        k = 5
        b = 5a

Find b when a = 0.5

b = 5a
b = 5 × 0.5
b = 2.5

Find a when b = 150
b = 5a
150 = 5a
150/5 = a
a = 30

Inverse Proportion
Relation between quantities such that as one increases in proportion the other decreases
a and b are inversely proportional
When a = 4, b = 5
4 × 5 = 20
So   a = 20/b   or   b = 20/a

"a is inversely proportional to b"
        a ∝ 1/b
        a = k/b
        4 = k/5
      20 = k
        a = 20/b

Find a when b = 0.1
a = 20/b
a = 20/0.1
a = 200

What do I need to be able to do?

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

Key words

Data

Algebra
Equation
Expression
Formula
Identity
Variable
Coefficient
Expand
Factorise
Substitution

Factors
Operations
Terms
Sequences
Graphs

What is Algebra and how do I use correct notation

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

For example, imagine this sum:

$$\square - 2 = 4$$

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

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

Sparx M813

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

We group letters together

| $a + a + a$ means 3 lots of a $3 \times a$ | $b + b$ means 2 lots of b $2 \times b$ |

We use indices/powers

| $a \times a = a^2$ (a squared) | $b \times b \times b = b^3$ (b cubed) |

We do not use multiplication signs

| $3 \times a = 3a$ | $a \times b = ab$ |
| $5 \times b = 5b$ | $a \times b \times c = abc$ |

We write division using fraction notation

| $a \div 2$ is written as $\frac{a}{2}$ or $\frac{1}{2}a$ | $b \div 3$ is written as $\frac{b}{3}$ or $\frac{1}{3}b$ |

Expression, Equation, Formula or Identity

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

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

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

Identity – When the expressions are said to be *identically equal*. The expressions are linked with the symbol ≡.
For example, $4(a + 1) \equiv 4a + 4$ is an identity, because the expressions $4(a + 1)$ and $4a + 4$ always have the same value, whatever value a takes and they are the same expression just written in a different way.

Example of each:

An Expression	An Equation
$4a + 7b$	$4a + 12 = 60$

A Formula	An Identity
$A = \pi r^2$	$(a+b)^2 = a^2 + 2ab + b^2$

Simplifying Expressions

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

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

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

For example:

Sparx M795

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

e.g. $3a + 4b + 2a + 5b =$

$3a + 2a + 4b + 5b =$

$5a + 9b$

e.g. $3x^2 + 2xy - 5x^2 - 6xy =$

$3x^2 - 5x^2 + 2xy - 6xy =$

$- 2x^2 - 4xy$

Expanding

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

Here is x + 2:

| x | 1 1 |

3(x + 2) means 3 lots of x + 2 and would look like this:

x	1 1
x	1 1
x	1 1

Altogether this is 3x + 6.
Algebraically, we would write:
3(x + 2) = 3x + 6.

We have multiplied each term inside the bracket by 3.

$4(x + 3) = 4x + 12$ $4 \times x = 4x$ $4 \times 3 = 12$

$5(2x + 4) = 10x + 20$ $5 \times 2x = 10x$ $5 \times 4 = 20$

Watch out!
Be really careful with negatives!

$3(x - 3) = 3x - 9$ Remember: $- \times - = +$

$-3(x - 4) = -3x + 12$

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

Sparx M237

$5(x + 3) + 6(x - 4)$

$5x + 15 + 6x - 24$

$11x - 9$

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

The grid method
Set this out exactly like the grid method for multiplication:

	x	3
x	x^2	3x
4	4x	12

$x \times x = x^2$
$x \times 4 = 4x$
$3 \times 4 = 12$ $x \times 3 = 3x$

Add up: $x^2 + 3x + 4x + 12$
Simplify: $x^2 + 7x + 12$

FOIL
This reminds you to multiply all of the terms.

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

First: $x \times x = x^2$
Outside: $x \times 4 = 4x$
Inside: $3 \times x = 3x$
Last: $3 \times 4 = 12$

Add up: $x^2 + 3x + 4x + 12$
Simplify: $x^2 + 7x + 12$

Smiley face (or claw)
This is a more visual version of FOIL.

$(x + 3)(x + 4)$ Smiley face

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

$x \times x = x^2$ $x \times 4 = 4x$
$3 \times x = 3x$ $3 \times 4 = 12$

Add up: $x^2 + 3x + 4x + 12$
Simplify: $x^2 + 7x + 12$

Factorising

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

Expand
$2(y+3)$ $2y+6$
Factor
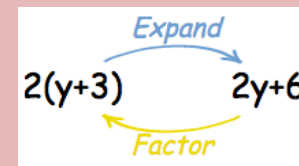
Example:

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

4x is 4 x x

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

Example:

$4x + 6 = 4 \times x + 6$
$= 2 \times 2 \times x + 2 \times 3$
$= 2 \times 2x + 2 \times 3$
$= 2(2x+3)$

Sparx M100 , M908

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

Example:

$x^2 + 7x + 12$

It is best to find the factors of 12 first, then the pair that adds to make positive 7.

Factors of 12:   Only one pair adds to also make 7.
  1 x 12
  2 x 6   Answer: $(x + 3)(x + 4)$
  3 x 4

Forming and Solving Equations

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

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

"times it by 6" is the same as 6 x x, which using correct notation we write as $6x$

"get the answer 18" is the same as = 18, which we write as $6x = 18$

$6x = 18$ can now be solved.

x	x	x	x	x	x
18					
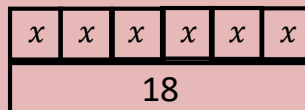
To calculate the value of x we do the inverse. The opposite of multiplying by x is to divide by x

$6 \times x = 18$

$x = 18 \div 6$

$x = 3$

Sparx M957

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

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

eg solve the equation $4x = 12.5$

x	×4	$4x$
3.125	÷4	12.5

The solution is $x = 3.125$

eg solve the equation $n + 8 = 3$

n	+8	$n+8$
−5	−8	3

The solution is $n = -5$

eg solve the equation $\frac{a}{3} = 7$

a	÷3	$\frac{a}{3}$
21	×3	7

The solution is $a = 21$

eg solve the equation $x - 4.7 = 0$

x	−4.7	$x-4.7$
4.7	+4.7	4.7

The solution is $x = 4.7$

Substitution

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

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

5cm

3cm

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

Real life substitution examples and formula's

Example 1:   The formula to change degrees Celsius (°C) to degrees Farenheit (°F) is

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

Sparx M208 , M979

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

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

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

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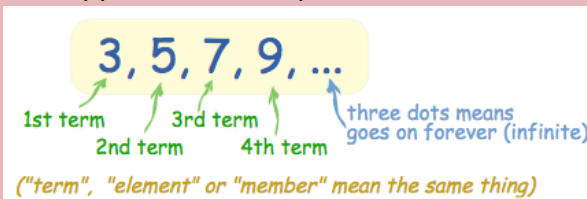C = 35W + 20   C = 35 x 5 + 20
W = 5   C = 195 minutes   or   3hours 15minutes

Sequences

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

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

For example:

3, 5, 7, 9, ...
1st term   3rd term   three dots means goes on forever (infinite)
2nd term   4th term
("term", "element" or "member" mean the same thing)

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

+2 +2 +2 +2
0 1 2 3 4 5 6 7 8 9 10

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

Sparx M991

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

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

Graphs

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

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

If the terms in the sequence are now labelled x instead of n, and the given sequence is labelled y then we can represent this in a table as:
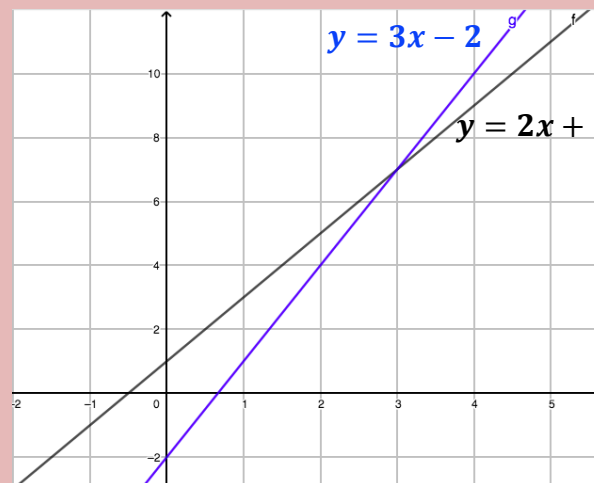
x	1	2	3	4	5
y	3	5	7	9	11
Coordinates	(1, 3)	(2, 5)	(3, 7)	(4, 9)	(5, 11)

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

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

$y = 3x - 2$
$y = 2x + 1$

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

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

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

The Periodic Table of Elements

Key

relative atomic mass
atomic symbol
name
atomic (proton) number

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

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

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

KS3 Science: Nutrition and digestion

Food group	Found in…	Function
Carbohydrate	Potatoes, pasta, rice, bread	Source of energy
Protein	Meat, fish, eggs, dairy, seeds, nuts	Builds and repairs tissues
Fats (lipids)	Cheese, nuts, oily fish, chips, cakes	Stores energy, insulate us, protects organs
Fibre	Fruit, veg, wholegrain cereals	Prevents constipation, improves health
Minerals	Dairy, veg, fish, meat, nuts	Enables body to work & stay healthy
Vitamins	Fruit, veg, milk, eggs	Same as minerals
Water	Cucumber, drinks	Needed in cells, tissues & organs

Keyword	Meaning
Nutrient	A substance that that is essential for the maintenance of life and for growth.
Carbohydrates	Group of molecules including sugars and starch.
Protein	Building block of cells, made of a long chain of amino acids.
Lipids	Another name for fats.
Enzyme	Biological catalysts, which means that they speed up chemical reactions.

Digestion is the break down of large insoluble molecules into small soluble molecules, so that they can be absorbed by the body.

If the body does not get what it needs it suffers with deficiencies such as:
- Scurvy
- Obesity
- Rickets

Plants make **carbohydrates** in their leaves by photosynthesis and absorb **mineral nutrients and water** from the soil via their roots.

This is why they are called **producers.**

Organs of the digestive system
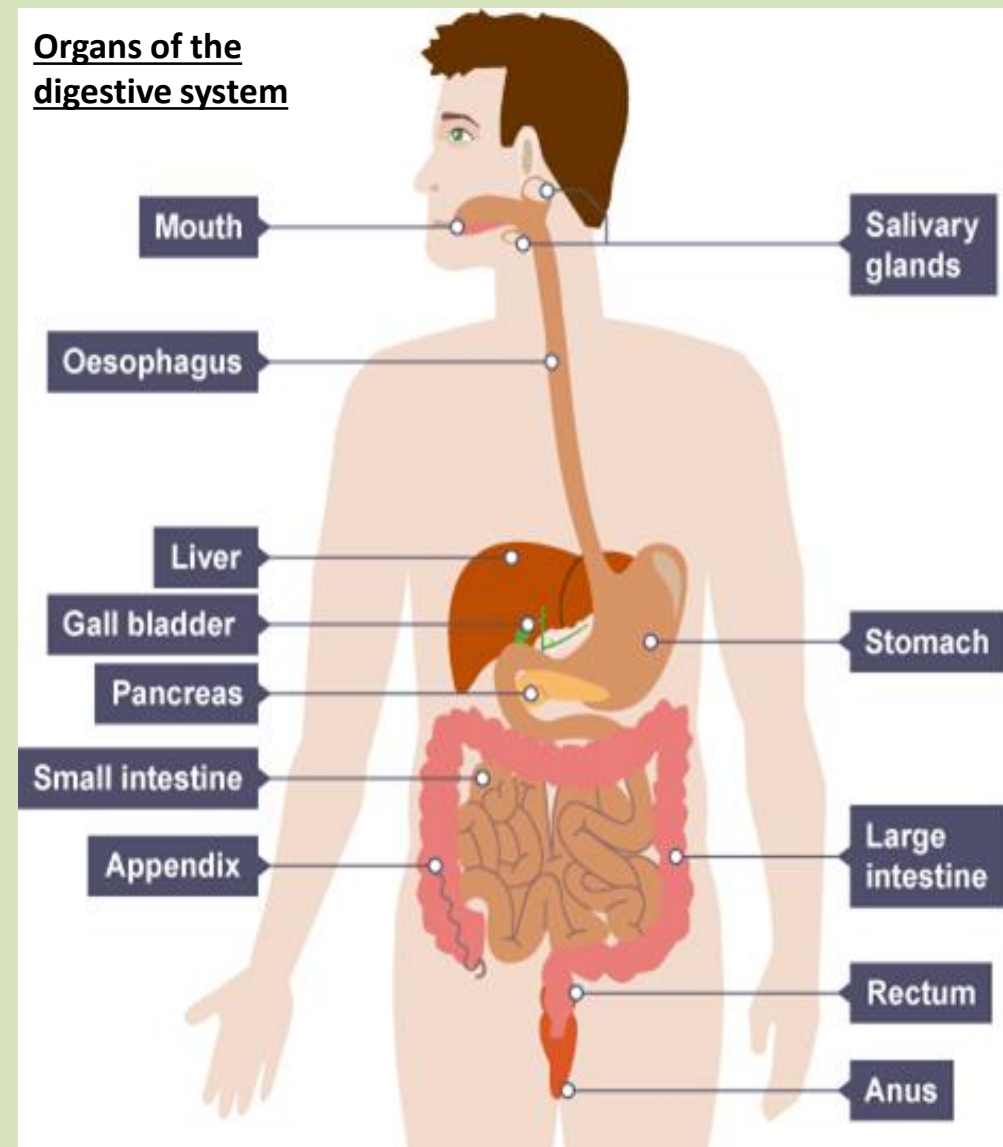
Bacteria play an important role in the human digestive system.

Imbalances in humans diet can lead to **obesity, starvation** and other **dietary deficiencies**

Food tests
- **Starch**: Add **iodine**, if starch is present it changes from red/brown to dark **blue/black.**
- **Protein**: Add **Biuret** reagents. If proteins are present, colour changes from blue to lilac.
- **Sugars**: Add **Benedict's** reagent and **heat**. If sugars are present, colour changes from blue, through colours to brick red.
- **Lipids**: Add **Sudan 3** reagent and mix. If lipids are present, colour changes from colourless to red.

Biuret Test for Protein

Biuret Reagent

Food Sample → Positive Result / Negative Result

Iodine Solution

Benedict's Reagent

Glycerol — Fatty Acid / Fatty Acid / Fatty Acid

none / low / high

Sudan III

+ −
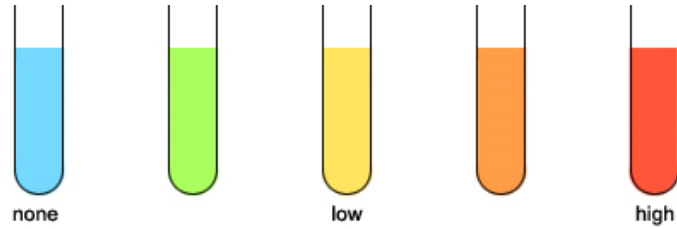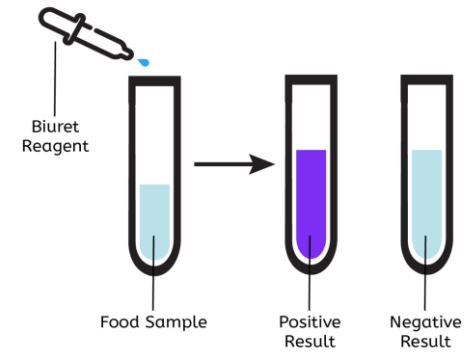
Enzymes are at work in the digestive system:
- **Carbohydrase** breaks down **Carbohydrates** into sugars.
- **Amylase** breaks down **Starch,** a carbohydrate into glucose.
- **Protease** breaks down **Proteins** into amino acids
- **Lipase** breaks down **Lipids** into fatty acids.

Protein

Amino acid
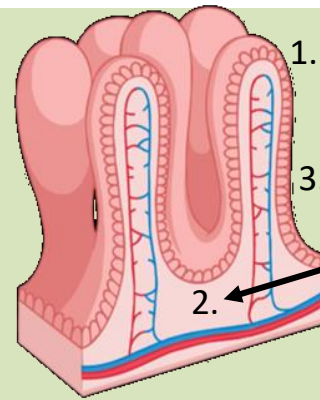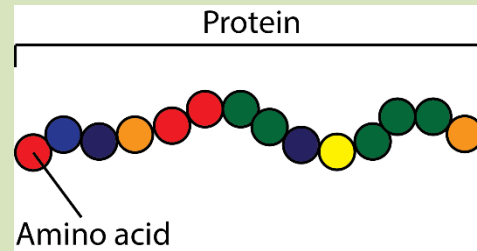
Adaptations to the small intestine

Your **small intestine** absorbs all of the required nutrients from your food. The inside of the small intestines is folded into **villi.**
1. These **increase** the **surface area** enabling more nutrients to be absorbed.
2. There is a **good blood supply** so that there is a **constant concentration gradient**.
3. The cell walls are **one cell thick**, so there is a **short diffusion distance**.

1.
3.
2.

Starch
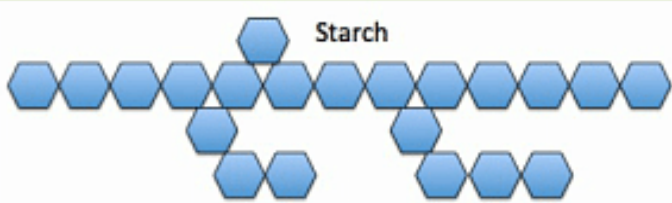
Adaptations to the mouth are:
1. Teeth
2. Salivary gland

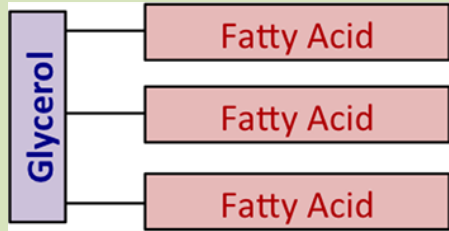**Adaptations to the stomach**

Your **stomach** churns up the food and digestive juices together and contains three different types of tissue:
1. Muscular
2. Epithelial
3. Glandular: secretes acid to kill bacteria and provide the correct pH environment for protease to work.

What tissues does the stomach contain?

gullet (part of the digestive system)

stomach (organ, part of digestive system)

small intestine (organ, part of digestive system)

folded lining

epithelial and glandular tissue

epithelial layer containing blood vessels

muscle layers
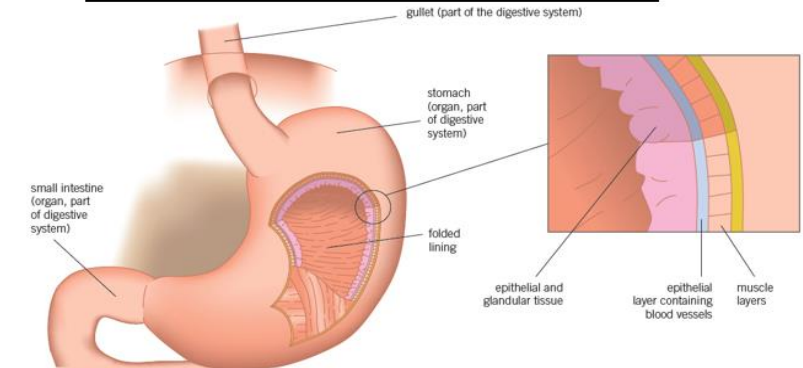
KS3 Physics: Speed and Motion

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

Distance
Speed X Time
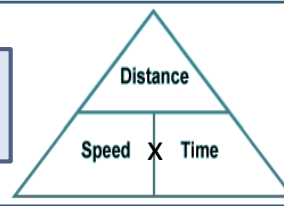
Car Safety Features:
Features to research:
Seat belts
Air bags
Crumple zones
Child seats
Side impact protection (SIPs)
Electronic driver aids

Relative motion

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

20m/s
5m/s
Relative speed = 15m/s
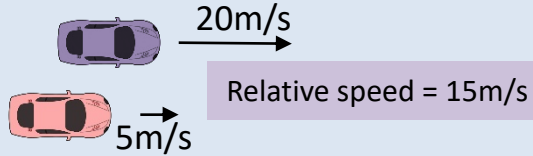
For two objects moving towards each other, the relative motion (sometimes called the approach speed) is the two speeds **added** together.

20m/s
5m/s
Relative speed = 25m/s
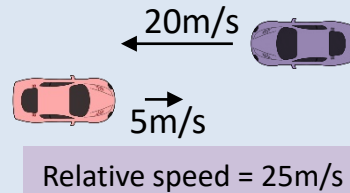
Stopping distance
A cars **Stopping distance** is made up of **Thinking distance** (reaction time) and **braking distance** (the distance you travel once you have applied the brakes)

40 mph
12 metres   24 metres

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

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

Normal reaction force
100N
Friction
100N
Thrust
200N
Weight
100N

Normal reaction force
100N
Friction
100N
Thrust
100N
Weight
100N

Normal reaction force
100N
Friction
100N
Weight
100N

Normal reaction force
100N
Weight
100N
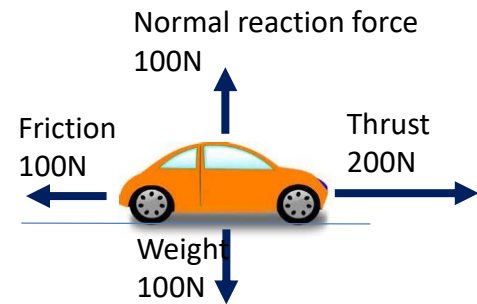
This car is accelerating as it has a larger thrust force than friction force (The resultant force is 100N →)
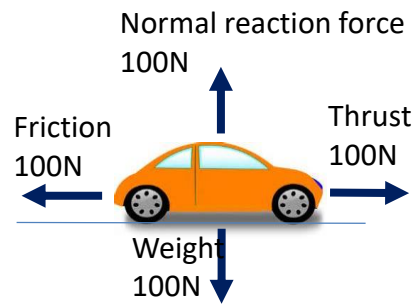
This car is travelling at a constant speed as it has an equal thrust force and friction force (The resultant force is zero)
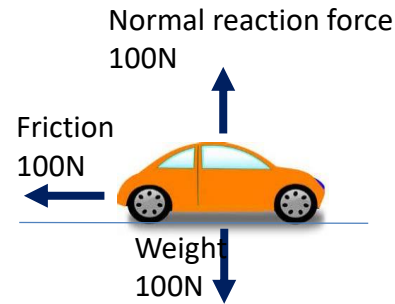
This car is decelerating as it has a larger friction force than thrush force (The resultant force is 100N ←)
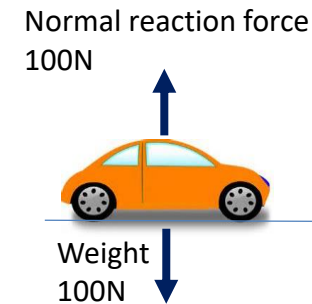
This car is stationary as there is no friction or thrust forces (the resultant force is zero)

Distance time graphs

DISTANCE
fast, steady speed.
getting faster
steady speed
stationary
returning to start
TIME
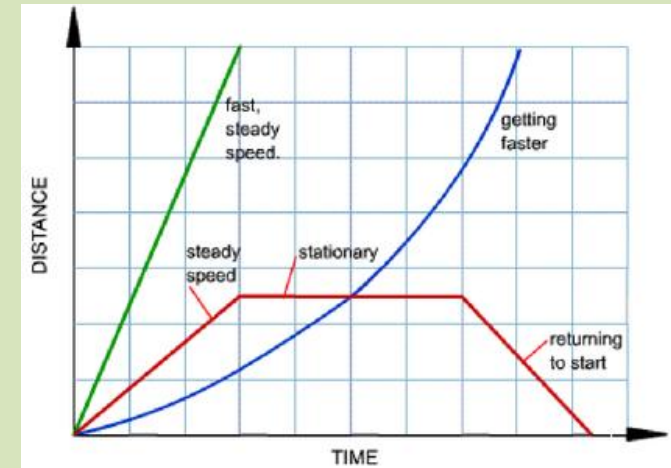
Straight line = constant speed
Horizontal straight line = stationary
Curved line = accelerating or decelerating

KS3 Chemistry :
The Earth and atmosphere

Core	Inner most layer of the Earth – made up of nickel
Mantle	The largest part of the Earth's layers – heat convects through this to contribute to tectonic plate movement
Crust	The outer most layer of the Earth. Tectonic plates are found here
Atmosphere	A mixture of gases that surround the planet and support life
Magma	Molten rock underground
Lava	Molten rock at the surface of the Earth
Igneous	Rocks that have been formed from the cooling of molten rock e.g. basalt, granite
Sedimentary	Rocks formed by small rock pieces being transported by rivers and laid down in layers e.g. limestone, sandstone
Metamorphic	Rock that is formed from another rock that is under high pressure and high temperature e.g. marble, slate
Renewable	A resource that can be replaced quickly e.g. wind
Finite	A resource that will eventually run out e.g. coal
Carbon Cycle	A series of processes where carbon is recycled around the environment

Inner core
Outer core
Mantle
Crust

800 miles
(1,300 kilometers)
1,400 miles
(2,250 kilometers)
1,800 miles
(2,900 kilometers)
5 to 25 miles
(8 to 40 kilometers)
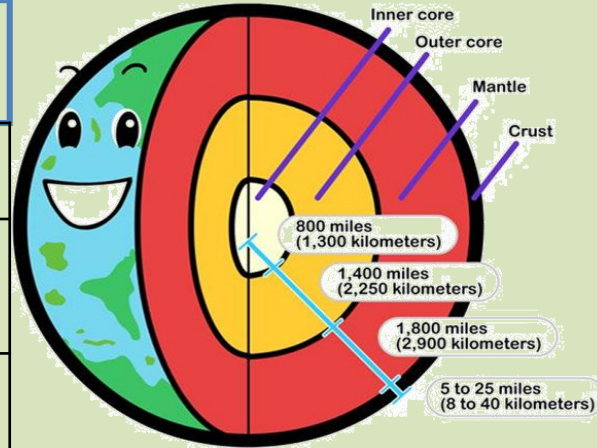
There are 4 main parts to the Earth's structure
- The inner core
- The outer core
- The mantle
- The crust

Tectonic Plates:
Mechanism called Slab Pull. Older, denser tectonic plates sink into the mantle.
As they sink, newer and less dense sections are pulled along behind.

The Earth's atmosphere is the relatively thin layer of gases that surround the planet. It provides us with the oxygen we need to stay alive.

78% Nitrogen
21% Oxygen
Other including:
1% Argon
Carbon dioxide 0.04%
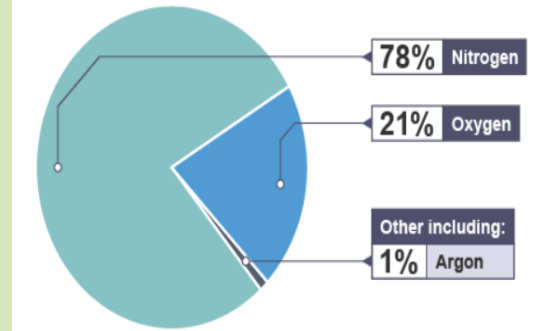
This pie chart shows the percentages of the main gases in dry air

The rock cycle

The processes in the rock cycle are summarised in this diagram:

Extrusive igneous rock

A

B

Intrusive igneous rock

G

C

Metamorphic rock

D

Magma from molten crust and mantle

F

E

Sedimentary rock

A	Weathering and erosion	D	Compaction and cementation	F	Melting
B	Transportation and deposition	E	Burial, high temperatures and pressures	G	Slow uplift to the surface
C	Sedimentation				
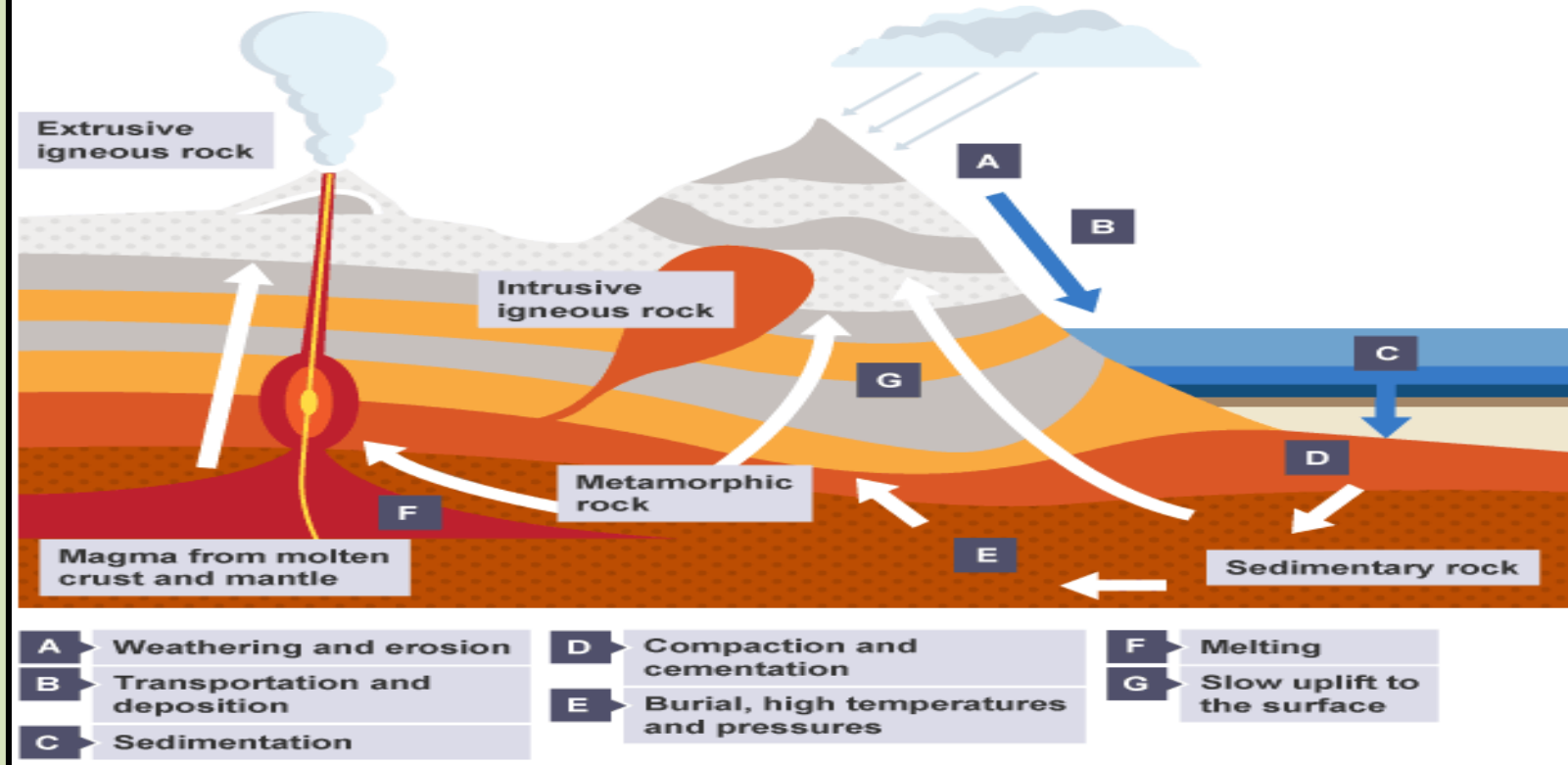
Since the industrial revolution the levels of greenhouse gases in the atmosphere have increased. This has led to the long wavelength radiation(such as infrared) being unable to escape. This heat has contributed to a global increase in temperature called global warming

Atmosphere

Less thermal energy escapes back into space

Thermal energy passes through the Earth's atmosphere

Some of the thermal energy is absorbed by greenhouse gases in the atmosphere

The Earth's atmosphere absorbs some thermal energy and warms up

The lower atmosphere warms up

death — organic compounds in dead organisms

death

feeding

organic compounds in green plants

organic compounds in consumers

carbon compounds in fossil fuels

respiration returns CO_2 to the atmosphere

decay and decomposition – CO_2 released as microorganisms respire

respiration

photosynthesis removes CO_2 from the environment

CO_2 in the air and dissolved in water, particularly oceans

burning (combustion)

Global warming has led to changes in the Earth's climate. Consequences of climate change due to global warming are:
- Ice caps melting and sea levels rising, causing flooding in coastal areas and loss of habitats
- Changes in weather patterns (increased droughts in some areas with increased rain in others) this affects wildlife and farming
- Increase in number and strength of storms
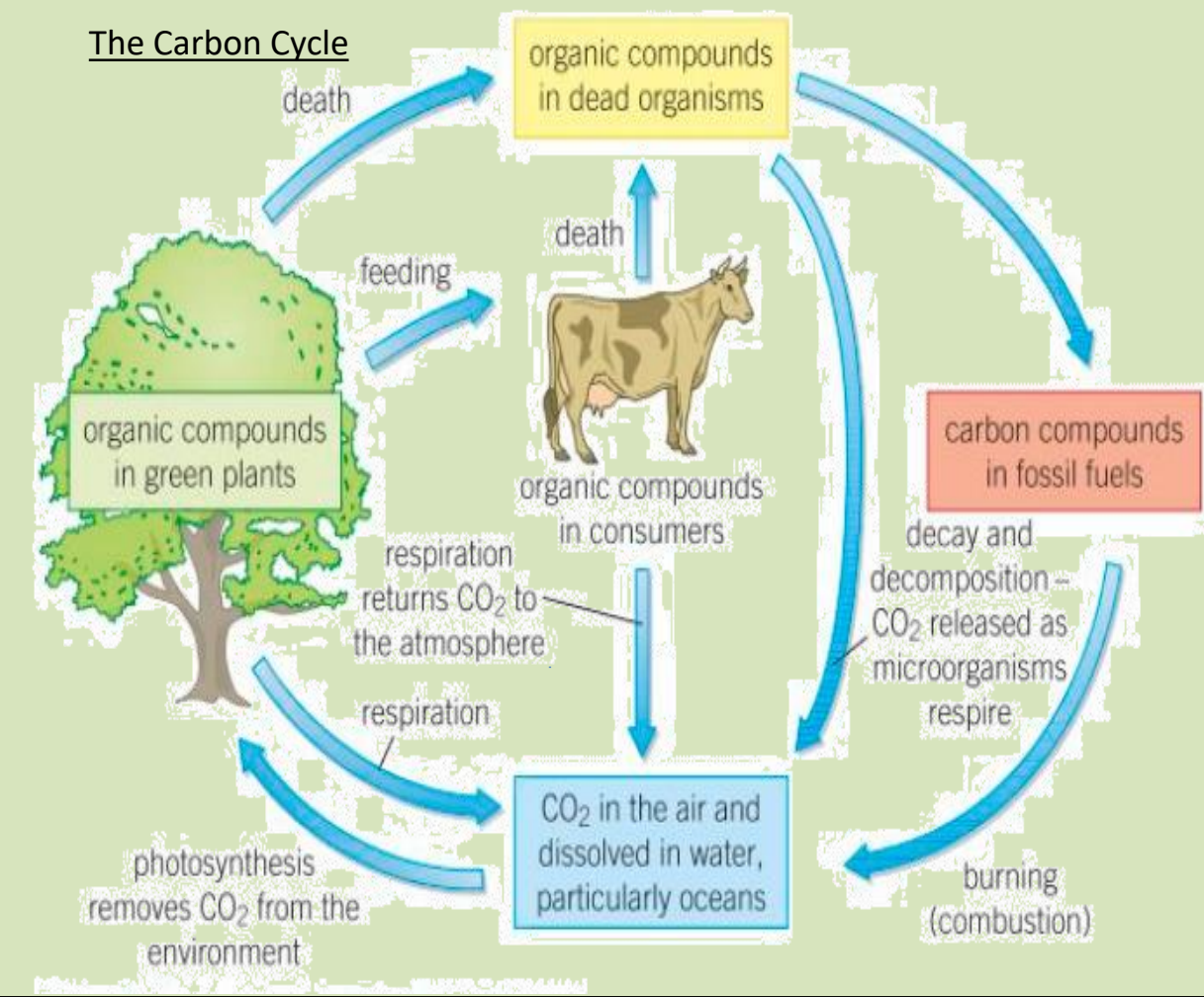
Ecosystems need materials to maintain its organisms. One of these materials is carbon. Plants take in CO_2 via photosynthesis. It is stored as glucose which is then transferred to animals that feed on the plants.

This is then stored in the animal's tissues or is exhaled as CO_2 from respiration.
Once these organisms die the carbon in their remains (over thousands of years) is stored as fossil fuel which can be used for combustion.
Burning of these fossil fuels releases the carbon as CO_2 which is taken in by plants as the cycle repeats itself

THE INTERNET

The diagram below shows the basic principles behind packet switching and how a file will move across the Internet from one computer to another.

The Internet as a worldwide collection of computer networks

The Cloud is a reference to the computing services that are offered across the Internet.

Storage   Computation Services   Software as a Service

DNS

URL   I.P. address   182.24.38.240

Scheme   Second level domain   Sub-directory

https://www.ocr.org.uk/qualifications/gcse/computer-science/

Sub domain   Top level domain

Packet Switching

a
b
c

Hosting is where a business porovides space on their web servers for websites to be accessed from.

STAR NETWORK TOPOLOGY RING NETWORK TOPOLOGY BUS NETWORK TOPOLOGY
CLIENT-SERVER NETWORKS

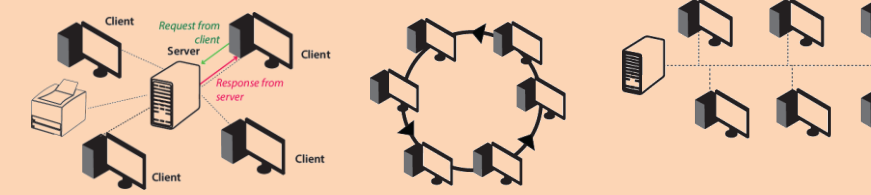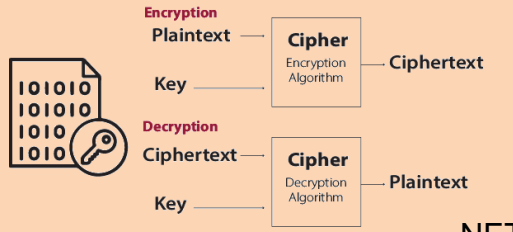Network types (peer-to-peer/client-server) is about the relationship that computers have with one another, topology refers to how the computers have been connected to one another.

Client
Request from client
Server
Response from server
Client
Client
Client

PEER-TO-PEER NETWORKS

Compression reduces the size of a file, which can help network performance as files take less time to upload/ download.

THE PRINCIPLES OF COMPRESSION

Encryption
Plaintext — Cipher Encryption Algorithm — Ciphertext
Key

Decryption
Ciphertext — Cipher Decryption Algorithm — Plaintext
Key

METHODS OF COMMUICATIONS

Wired (Ethernet)   Wireless (WiFi/Bluetooth)

NETWORKING HARDWARE

Wireless Access Point (WAP)   Router   Switch   Network Interface Controller/Card (NIC)   Transmission Media

FACTORS AFFECTING THE PERFORMANCE OF NETWORKS

Local Area Networks (LANS) occupy a smaller geographical space and tend to use their own networking hardware/methods of communication. Wide Area Networks (WAN) are the opposite to this. They would use 3rd party infrastructure and communicate over large distances.

Bit rate	the measure of the amount of data (in bits) that is transferred per second. Measured in bits per second (bps)
Bandwidth	the theoretical maximum amount of data that a communications channel can carry at one time
Network range	the distance over which data can be reliably transmitted. The most important component in determining range is the transmission media.
Number of devices	All devices share bandwidth and in most LANs, only one device can commnicate at a time. Strictly speaking it is not amount, but what each device is doing that will have the impact.
Latency	is the delay between the time a signal is transmitted and the time a signal is received.

LAN
Server   Workstation   Switch   Workstation   Printer   Workstation   Workstation

WAN
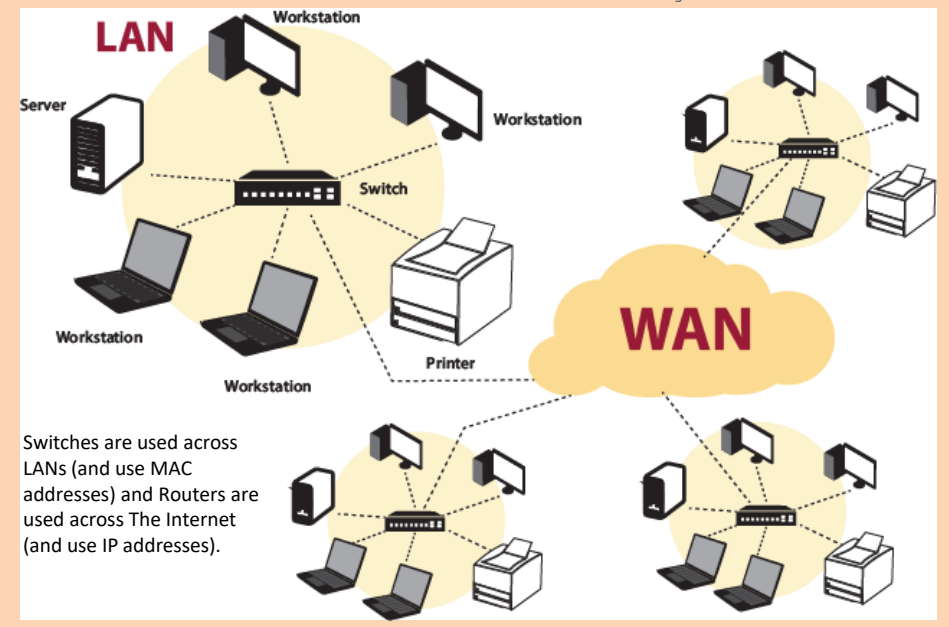
Switches are used across LANs (and use MAC addresses) and Routers are used across The Internet (and use IP addresses).

BRUTE FORCE ATTACKS

Key Size (bits)	Number of Alternative Keys	Time required at 10^6 decryptions/microsecond
32	$2^{32} = 4.3 \times 10^9$	2.15 milliseconds
56	$2^{56} = 7.2 \times 10^{16}$	10.01 hours
128	$2^{128} = 3.4 \times 10^{38}$	5.4×10^{18} years

Using increasing computing power, Brute Force Attacks are becoming more sophisticated and more possible.

Properties of a vector graphic

The properties of each shape are recorded:
- Shape type (e.g. Circle)
- Radius
- Centre point (x,y)
- Fill Colour
- Line Colour

r

x,y

Vectors are used in...
- Computer Aided Design
- Architectural Plans
- 3D Modelling
- Maps
- Text

Features of a vector graphic

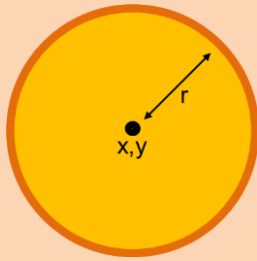Vector graphics consist of shapes called objects. You can edit each object separately to change the shape, colour, size and position. Recording the properties of vector shapes doesn't take up much memory. This usually makes the file size of a vector graphic very small. Vector graphics are scalable – you can change their size without any loss of quality.

What are bitmap graphics?

A Bitmap graphic is also known as a Raster graphic. A bitmap graphic is composed of tiny squares, called pixels. It is possible to edit each individual pixel. The computer stores information about the colour value of every pixel in the image. This can mean a large file size. Resizing a Bitmap graphic causes it to pixelate and lose quality. They are used for: Digital Camera Images, Scanned Images, Magazine Covers, and Photographs.

Creating a bitmap graphic
- Each pixel is given a binary value
- Each value represents a different colour
- Using one bit per pixel allows only 2 values, 0 and 1
- 1 = White, 0 = Black
- More bits per pixel = more colour combinations
    - 1 bit = 2 Colours
    - 2 bits = 4 Colours
    - 3 bits = 8 Colours
    - 4 bits = 16 Colours

01 = (red)   10 = (green)
00 = (black)   11 = (white)
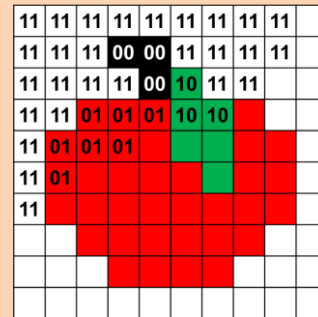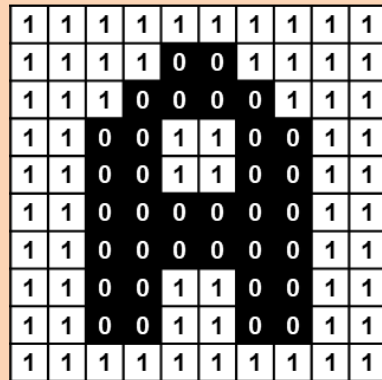
	Bitmap graphics	Vector graphics
Made up of	Coloured pixels	Objects
File size	Large	Small
Resizing	Lose quality	No loss of quality
Appearance	Real	Cartoon-like
File formats	.bmp .jpg .gif	.svg .wmf

How a Camera Sees an Image

Each tiny square on the sensor captures the average light value of the colours it 'sees'
This is interpreted as a colour and becomes a pixel of solid colour.
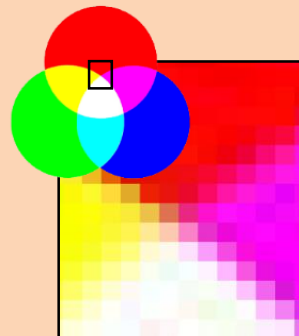
Conveying meaning

Different aspects of a graphic can convey a different meaning. You have to think of the audience and the purpose of the document you are creating, before you settle on how you are going to use each component.

- Colours
- Font Style
- Font SIZE
- Number of different FONTS
- Image Objects

Resolution (DPI–Dots per Inch)

Not the size of the image...
But the number of pixels in the image
- Monitors display images at 72dpi
- Printers print images at over 300dpi
- Glossy magazine covers can print at 1200dpi

10dpi   72dpi   300dpi

Selection

Border

Layer effects

Feathering

Cropping

Layer depth

Year 8 History Term 1

The Tudor Period

Henry VIII 1491-1547		Mary I 1553 -1558

Henry VII 1485-1491	Edward VI 1547-1553	Elizabeth I 1553 - 1603
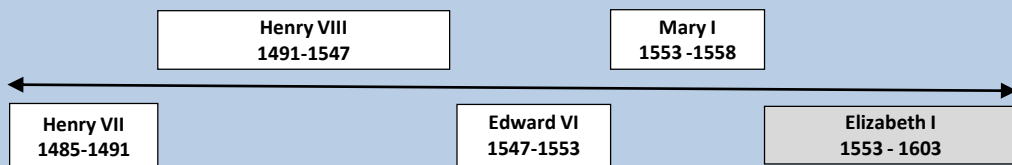
Elizabethan England - The period between 1558 and 1603, where Elizabeth I ruled England. The period is also called a '*Golden Age*' as it was a a time of prosperity and success for England with defeat of the Spanish, the start of England's world empire and an explosion of culture e.g. Shakespeare's works.

Key Events

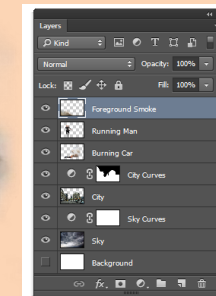| Year	Event
1588	Elizabeth is crowned Queen of England, after the death of her sister Mary I
1539	Elizabeth introduces her Religious Settlement to end conflict between the Protestants and Catholics. England stays Protestant but Catholic traditions were allowed. This still angers Catholics and the Pope
1568	Mary Queen of Scots flees to England from Scotland
1570	Pope Pious V issues a Papal Bull excommunicating (throwing out) Elizabeth from the Catholic Church as she continues to keep England Protestant.
1577 - 1580	Francis Drake completes the first circumnavigation (sailing around) of the world by ship, he is then knighted by Elizabeth on his ship the Golden Hind
1585	The war between England Spain begins
1585	The first English colony in North America is set up by Sir Walter Raleigh, called Roanoke. It eventually fails with all people disappearing
1586	The Babington Plot. A plot by Anthony Babington, Catholics and Mary I to kill and replace Elizabeth is uncovered
1587	Mary Queen of Scots is executed after her role in the Babington Plot
1587	Sir Francis Drake launches an attack on the Spanish port of Cadiz
1588	Phillip II of Spain launches the Spanish Armada who are defeated by the English at the Battle of Gravelines
1599	Shakespeare builds the famous Globe theatre in London
1603	Elizabeth I dies

Key People

Mary Queen of Scots	Previous Queen of Scotland but was deposed, she came to England but was executed for plotting to kill her cousin Elizabeth I
Sir Walter Raleigh	A famous English explorer who set up the first English colony in North America at Roanoke and is rumored to have introduced the potato to England. Raleigh
William Shakespeare	England's most famous author, who staged his first play in 1590 and wrote over 38 plays including Romeo and Juliet.
Francis Drake	A seaman originally famous for being the first to circumnavigate the globe, he also was a privateer and enemy of the Spanish. Drake led the navy to defeat of the Spanish Armada in 1588
Pope Pious V	Catholic pope who excommunicated Elizabeth in 1570 for continuing the break with Rome and keeping England Protestant.
Phillip II of Spain	King of Spain, led the powerful Spanish Empire and a devoted Catholic. Wanted to invade England in revenge for the execution of Mary Queen of Scots and as England was a rival empire

Key Words

Empire	A group of countries ruled over by a single country
Religious Settlement	Actions taken by Elizabeth I to end the religious conflict between Catholic and Protestants in England by combining religious practices from both religions in the Act of Uniformity (1559)
Culture	Literature, Music, Architecture also called 'The Arts'
Privateer	A pirate who has been given allowance by the government to attack enemy ships. Elizabeth allowed Drake and Raleigh to attack the Spanish, this increased our power on the seas and made our economy stronger
Gloriana	Nickname given to Elizabeth I, suggesting she was immortal
Crescent Formation	The way the English ships sailed up the English Channel, the ships were in a curved line
The Spanish Armada	A fleet of 130 Spanish galleons (ships) that sailed to invade England in 1588 led by the Duke of Medina Sidonia
Tilbury	Location where Elizabeth gave her famous speech to her troops.
Fireships	Old ships loaded with burning material sailed at the enemy

Elizabeth came to power in 1558, inheriting problems with religion, poverty and foreign policy. Historians in the 1970s thought that, when Elizabeth came to the throne, the country was about to collapse. Elizabeth restored the stability and the status of the monarchy:

- She solved the religious tensions by following a 'middle way' which allowed Catholics and Puritans to keep their private beliefs as long as they went to the Church of England in public. However, she hunted, tortured and executed Catholic priests who came into England to undermine her power.
- She survived plots and rebellions, and executed Mary Queen of Scots in 1587 because she saw her as a threat to her throne.
- At the time women were seen as weak and inappropriate leaders of a nation. To combat this perception she tried to use her unmarried status as a way of strengthening her political control in England and abroad.
- Elizabeth encouraged the 'Gloriana' myth, and commissioned portraits which presented her as pure and powerful. Her reign was a time of art, music and literature.
- She defeated the Spanish Armada - a vast fleet of warships from the then world super power. By defeating Spain, England was on the way to being a world power by her death and one which had set up its first colony.

The darker side of Elizabeth I

- Elizabeth I is regarded by many as one of England's greatest monarchs, whose reign laid the foundations of England's greatness. But is this true?
- She could be as 'bloody' as Mary and executed many more people for religion than her father, Henry VIII. She established a network of spies and informers to ensure her safety.
- Far from encouraging Parliament, she bullied and controlled it, ran the government as she wished and even arrested an MP when he complained.
- The King of Spain raised a huge fleet of ships to invade England. It was known as the Armada. That the Armada was largely destroyed and failed to invade England was a triumph for Elizabeth – but it was also a very lucky escape.

Elizabeth's Problems

Religion

Mary Queen of Scots

Marriage

Succession

Money

The Spanish Armada

Overview of Elizabeth's reign here:

SCAN ME

You Tube

Defeat of the Spanish Armada

Philip's plan was to:
1. Gather a huge **Armada** of 130 ships in Spain, under the Duke of Medina Sidonia.
2. Sail to the Netherlands to pick up the Spanish army, led by the Duke of Parma.
3. Invade England.

However:
• In 1587, a year earlier, Drake attacked Cadiz and destroyed over 100 of Philip's fleet in the harbour.
• Philip assembled another fleet in 1588, but it was hastily provisioned and badly equipped.
• Medina Sidonia begged not to be put in charge.

Key

→	Leaving Lisbon	→	Return to Route back followed by English ships
→	Sailing in crescent formation		Ships destroyed
✕	Site of battle at Gravelines		

The failure

The Armada set sail in May 1588:

• It was spotted almost immediately, and England was warned.
• From 20 to 27 July, the English fleet attacked the Armada as it sailed up the English Channel. The Armada sailed in a crescent formation, however, making it difficult to attack, and the English fleet did little damage.
• On 27 July, the Armada anchored in open seas off Calais. The English sent in fireships, so the Armada cut their anchors to escape.
• On 28 July, the English attacked the Spanish fleet at the Battle of Gravelines. The English ships were easier to manoeuvre in the heavy waters of the North Sea. This decisive battle prevented the Spanish from landing in England.
• Philip's 'invincible' Spanish fleet fled north, chased by the English fleet. It had to return home by sailing round the north of Scotland and the west coast of Ireland, where many ships were sunk by storms.
• On 8 August, after the main danger was over, Elizabeth went to speak to the English troops at Tilbury. She said, *"I have but the body of a weak and feeble woman, but I have the heart and stomach of a king... and think foul scorn that any Prince in Europe should dare to invade the borders of my realm."*

Consequences of the Spanish Armada

Philip was temporarily halted.

But:

■ The defeat did not harm his control over his empire which continued to grow after his death in 1598. Spain would remain a dominant 'super-power' for a further 100 years.
■ He tried other armadas in 1596 and 1597. Both were destroyed by storms.

The English rejoiced – they took it as a sign that God was on their side, even celebrating a national day of Thanksgiving for its victory over Spain on the 24th November.

But:

■ The English did not defeat Spain and the war dragged on.
■ An English naval attack on Portugal in 1589 failed.
■ In 1595 a small Spanish force raided Cornwall.

England was able to continue causing trouble for the Spanish Empire.

■ English pirates continued to attack Spanish treasure ships.
■ The Spanish believed that English slave traders illegally carried enslaved people to the West Indies.

But:

■ The Roanoke colony disappeared, and was never seen or heard of again. England did not plant another colony in America until 1607.
■ The Armada was **not** the beginning of an English empire in the **New World**.

Overview of Armada's defeat:
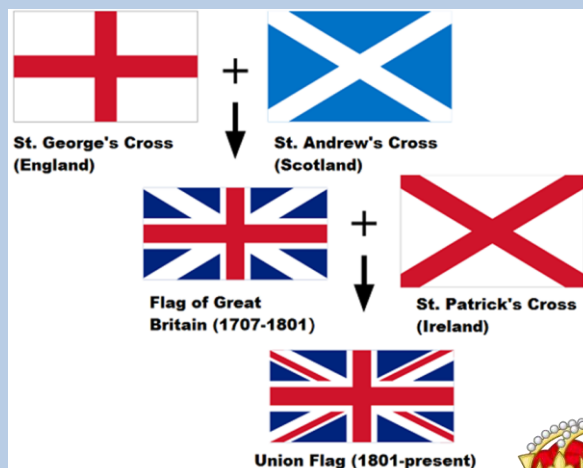
SCAN ME

YouTube

History – Term 2
The Stuarts

OVERVIEW

James I was king of England and Scotland following the death of Elizabeth I. The period ended with the death of Queen Anne who was succeeded by the Hanoverian, George I from the House of Hanover. James I was a Protestant and his reign is most famous for the Gunpowder Plot. His son, Charles I, led the country into Civil War and was executed in 1649. This was followed by the period known as the Commonwealth, where there was no monarch ruling the country. Instead, Oliver Cromwell was Lord Protector and famously banned 'merriment' at Christmas. The Restoration saw the Stuarts returned to the throne under the 'Merry Monarch' Charles II. This period is best known for the Great Plague and the Great Fire of London. In 1688 powerful Protestants in England overthrew James II and replaced him with his daughter and son-in-law, William and Mary of Orange, in the 'Glorious Revolution. The final Stuart, Anne, had 17 pregnancies but left no heir.

Key Terms & People	
Stuart	Name of the royal family who ruled over England & Scotland in 1603-1707. Replaced the Tudor family after Elizabeth I had no children.
James I (James VI of Scotland)	First Stuart King of England (1603-25). Replaced Elizabeth I. Mother was Mary of Scots, executed in 1587. Unlike his Catholic mother, James was a strong Protestant. Believed in the Divine Right of Kings.
Gunpowder Plot	A plot put together in 1605 by Catholics to blow up James I and Parliament. Many Catholics resented being taxed heavily.
Robert Catesby	Leader of the Gunpowder Plot. Sought the support of Spain to overthrow James I and the English government, who they saw as heretics. Previously arrested for rebellion against the crown.
Guy Fawkes	Caught red-handed in a cellar beneath the Houses of Parliament with 1,000kg of gunpowder. Hung, drawn & quartered as punishment.
Lord Monteagle	A Catholic MP. A mysterious letter was sent to him by the Gunpowder plotters, warning him to avoid going to Parliament on the day of the plot. Monteagle immediately informed Robert Cecil.
Robert Cecil	A Puritan and very anti-Catholic advisor to King James I. Son of William Cecil. Set up an anti-Catholic spy network in Europe. Possibly framed the Gunpowder plotters in order to punish Catholics severely.
Divine Right of Kings	Claimed kings were answerable only to God and it was sinful for their subjects to resist them. James I and his son Charles I believed in this.

St. George's Cross (England) + St. Andrew's Cross (Scotland)

Flag of Great Britain (1707-1801) + St. Patrick's Cross (Ireland)

Union Flag (1801-present)

Tudor Rose

The Scottish Thistle

James I's crest was designed to show the union between Scotland and England

King Charles I

Problems of Charles I
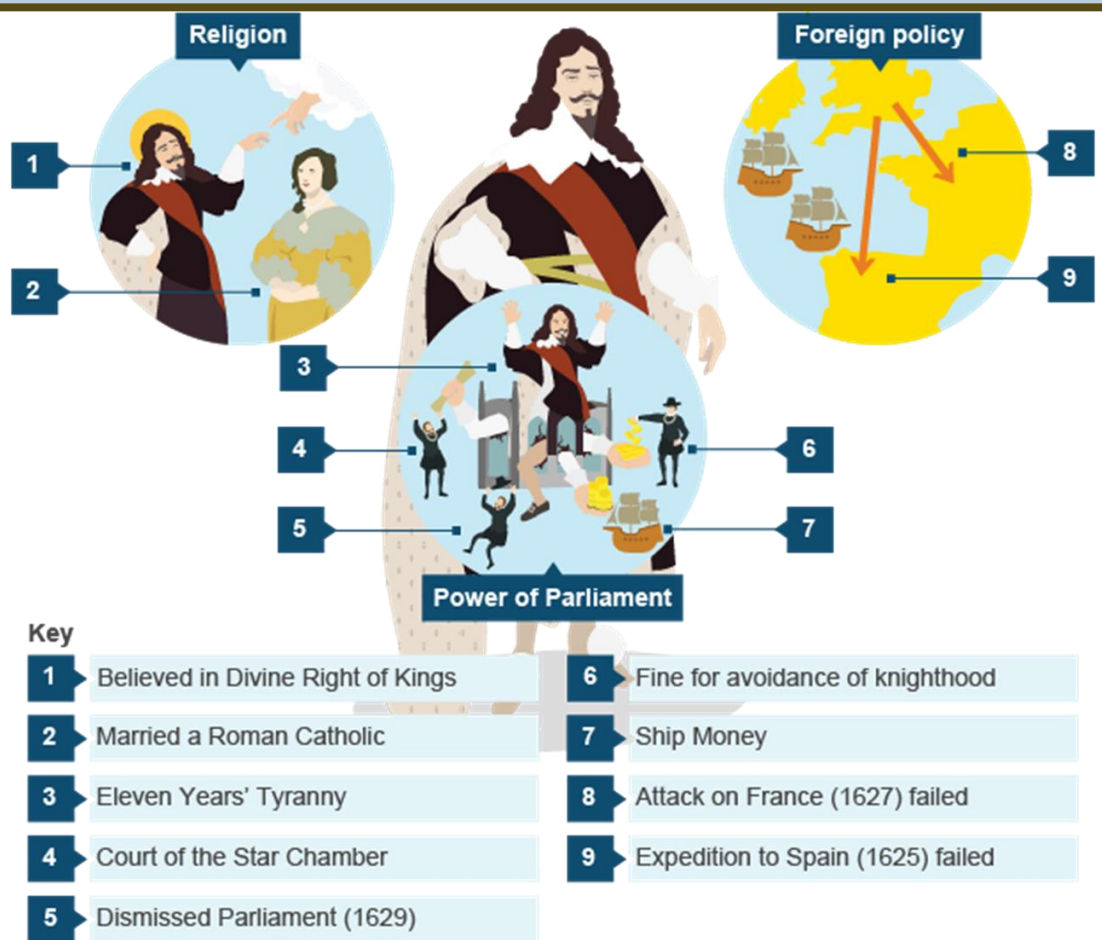

Religion
1
2

Foreign policy
8
9

Power of Parliament
3
4
5
6
7

Key
1 ▶ Believed in Divine Right of Kings
2 ▶ Married a Roman Catholic
3 ▶ Eleven Years' Tyranny
4 ▶ Court of the Star Chamber
5 ▶ Dismissed Parliament (1629)
6 ▶ Fine for avoidance of knighthood
7 ▶ Ship Money
8 ▶ Attack on France (1627) failed
9 ▶ Expedition to Spain (1625) failed

Key words and names	
Civil War	Two sides fighting each other in the same country.
Charles I	Son of James I. Second Stuart monarch (1625-49). Married a French Catholic and charged taxes that Parliament thought were unfair, making him unpopular. He went to war with Parliament – and lost.
Henrietta Maria	Wife of Charles I. Unpopular for being Catholic…& for being French!
William Laud	Friend of Charles I, who made Laud Archbishop of Canterbury. Laud told off Puritans for being too strict and relaxed Puritan rules.
Ship money	A new tax issued by Charles I that was unfairly extended to inland counties of England in 1635. Many MPs thought the tax was illegal.
The Grand Remonstrance	A list of complaints presented to Charles I in 1641 by Parliament. The tone was anti-Catholic and opposed Laud's religious changes.
Impeach	To put a member of the Government on trial in Parliament.
Parliamentarians (AKA 'Roundheads')	The side in the English Civil War who thought Parliament should share power with the king. Formed the 'New Model Army' in 1645.
Oliver Cromwell	A Puritan MP who believed in Parliamentary government. He was a very effective Parliamentary leader in the English Civil War and became Lord Protector of England after Charles I was executed.
Royalists (AKA 'Cavaliers')	The side in the English Civil War (1642-49) who supported the King against Parliament. They lost.
Lord Protector	Title given to Oliver & Richard Cromwell, who ruled in place of a monarch after the civil war. In theory, Parliament now ruled, yet Oliver Cromwell became impatient & dismissed Parliament in 1653!
The Levellers	A political group wanting equal rights and the vote for all men. Cromwell crushed the Levellers by 1650.
Interregnum	Name given to the period 1649-1660, when there was no monarch.
Charles II	Son of Charles I. Restored Stuart monarchy to power in 1660 after Cromwell's 'Interregnum'. Known as the 'party king'. Ruled 1660-85
James II	Younger son of Charles I and brother of Charles II. A Catholic convert and therefore very unpopular, quickly facing rebellion. Got rid of Parliament in 1685, who soon plotted to overthrow him.
William (of Orange) & Mary	Mary was James II's daughter. She was Protestant and married to William of Orange (leader of the Protestant Dutch Republic).
The Glorious Revolution	William & Mary were crowned joint monarchs in 1689 to stop James II's Catholic rule. They accepted Parliament's 'Bill of Rights', restricting the monarch's power so that they share with Parliament.
Puritans	Strict Protestants who wanted a 'purified' Church
Restoration	Period where Charles II and Stuart family returned to the throne
New Model Army	Full time, professional army set up by Fairfax and Cromwell
Popish	Description of something appearing to look Roman Catholic

THE ENGLISH CIVIL WAR

Causes of the Civil war

Royalist soldiers were also known as 'Cavaliers' from the Spanish *caballero* meaning gentleman.

Key Battles of the English Civil Wars

- **1642**. **The Battle of Edgehill** was a confused draw. Charles advanced as far as Turnham Green, five miles from London, but when 24,000 Londoners turned out to fight him, he turned back.
- **1643**. Charles tried another attack on London, but he was defeated at the **Battle of Newbury**.
- **1644**. Parliament made an alliance with the Scottish 'Covenanters' (Protestants), and Oliver Cromwell and his 'Ironsides' joined the Parliamentary cavalry. Cromwell defeated a Royalist army at **Marston Moor** by attacking them at teatime
- **1645**. Parliament reorganised its armies into the **'New Model Army'** led by Cromwell. Charles was decisively defeated at **Naseby**
- **1646**, Charles surrendered.
- **May 1648** Charles made a deal with the Scots and started a second civil war. After Cromwell had defeated Charles a second time – at the **Battle of Preston** in August **1648** – Parliament put him on trial for treason.

The Build-Up to War

1625	Charles I crowned King. Married Henrietta
1629	Parliament dissolved. Charles I rules alone. Ship money imposed.
1630s	Laudian reforms imposed on Church by Archbishop
1640	Scottish army invades to stop Laud's reform of Church in Scotland.
April 1640	Parliament recalls Parliament for the first time in 11 years, he demands money to fight the Scots, Parliament refuses so Charles dismisses them.
Nov 1640	Charles I forced to recall Parliament to fight the Scots
1641	Charles I submits to Parliament's demands including Laud impeachment, closure of Star Chamber and end of Ship Money.
1641	Grand Remonstrance; Parliament demands right to choose ministers.
Jan 1642	Charles attempts to arrest 5 MPs. Parliament takes control of army.
1642	Charles flees to Nottingham. Civil War begins

Parliamentarians were nicknamed 'Roundheads' due to their modern shorter hair styles

Charles I - King from 1625 to 1649

Oliver Cromwell - Leading Parliamentarian. Lord Protector 1653 –1658

Charles Stuart (II) - Son of Charles I. Became King in 1660.

Thomas Fairfax - Parliamentarian General and creator of New Model Army

Political Map of the World

Map of UK

What is a tourist?

A tourist is a person who travels to a place that is not their normal place from 1 day up to a year.

Most tourists are people on holiday but those that travel for business, leisure or other reasons are still tourists.

What is the tourist industry?

The tourist industry means all the activities that tourists take part in and the services that support them.

Tourists, hotels, airports, taxi drivers and ice cream sellers are all part of the tourism industry.

international tourist arrivals (millions)
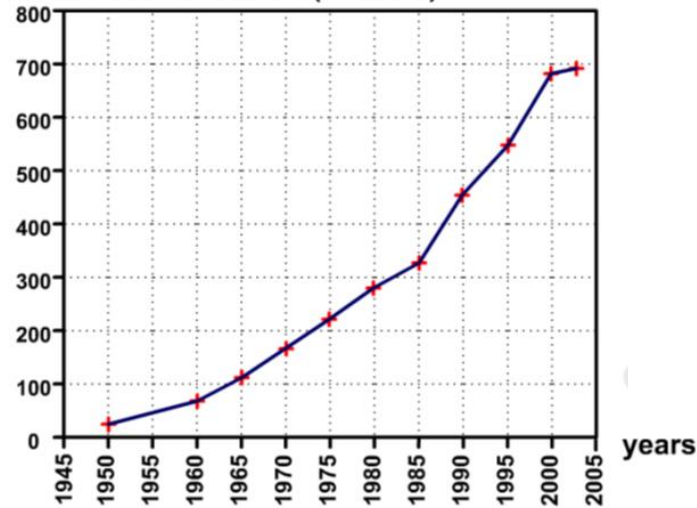
Source: World Tourism Organisation (WTO)

How much has tourism grown?

Before 1950, tourist levels were relatively low. However, in the 1950s, it suddenly started to increase. If you look at the graph to the left which shows the number of international tourists every year, you can see that there are less than 100 million tourists in 1950, but by 2005, this number was almost at 700 million. As of 2015, more than 1 billion tourists travel every single year.

Continent/Region	%
Africa	4
North America	10
Asia & Pacific	25
Europe	50
Middle East	4
South America	7

Where do people visit?

This table shows what percentage of all tourists each area of the world gets. Europe is by far the most popular place to visit (with 50% of all visits) compared to Africa and the Middle East (both with only 4% of visitors). Europe receives the most tourists because it is very easy for people to travel between European countries. Also many European countries are considered HICs (high income countries) and are considered to be safer to travel. In contrast, many countries within some other regions have a smaller tourism industry, so it is harder for tourists to visit.

Why has tourism grown?

Tourism has grown so rapidly for variety of different reasons:

1. People have more time.
   a. In many countries, people have paid annual holiday (normally around 4 weeks) where they are allowed to go on holiday and are paid for it.
   b. As people are now living longer, we they have more time when they retire to explore.
2. People have more money.
   a. Many people in the UK have well paid jobs and therefore have more money. They now have a higher disposable income (money left over from paying bills) to spend on going on holiday.
3. Better Transport.
   a. Nowadays, with improved air travel and road networks it doesn't take too long to travel to different countries with desired environments.
   b. Many people have cars and can just travel whenever they want with very little planning
4. Better technology.
   a. People can now use the internet to search for and book holidays which saves time. Whereas, in the past people would have to go to a travel agents and they would have to organise it all for them.
5. Better tourism products.
   a. People want to visit places were all their needs can be met. The introduction of places like Disneyland and all-inclusive holidays allowed for dream holidays to become reality.

Tourism Environments

Different characteristics can greatly influence the image of a tourist destination. People may decide to visit a place based on 2 main features:

1. Human (man-made) characteristics
   a. These are features where people have built particular services which would have not naturally been there to encourage visitors. Think of big cities like New York or Las Vegas.

2. Physical (natural) characteristics
   a. These are features which have naturally occurred and are normally big and distinctive. Examples of this could be the Grand Canyon or a big mountain.
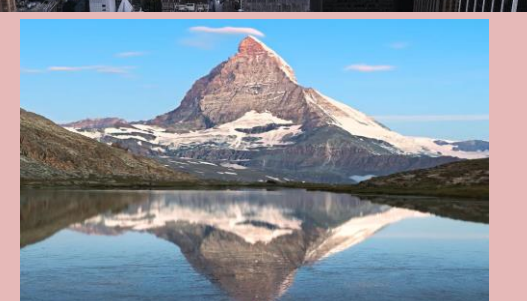
Mass Tourism in Paradise – The Seychelles

Seychelles is a tropical island located to the east of Africa. It is north east of Madagascar and lies in the Indian Ocean. It is home to some of the most beautiful beaches, tropical rainforests and rare animals Until recently, the people lived a subsistence lifestyle. However, as tourists started to arrive, their whole lifestyle and environment began to change.

Mass tourism is when large numbers of tourists visit the same destination. Holiday companies arrange charter flights to transport tourists. Many holidays include everything you will need from flights to food. These are called all-inclusive package holidays

Positives of tourism	Negatives of tourism
Locals are able to use the profits of tourism to build better infrastructure such as a hospital.	Those people who have become much richer because of the tourism are now building the first super-hotel which can be seen for miles and required the deforestation of 3 hectares
The islanders now have enough money to buy some of their food rather than growing it themselves	With the recession, less people from Europe are travelling abroad
The scope for economic diversification and growth is limited on small islands: tourism could help reduce the countries debts.	Pleasure boats mean not all the tourists are on the islands at once... but they pollute the water and their anchors damage coral.
As the locals now receive more money, they can spend it on improving their own quality of life.	Tourism has become the main source of income in the region with many traditional skills and ways of life disappearing
	Many tourists do not respect what is around them and are selfish in their attitude towards the Seychelles, having high expectations of westernised facilities and hotels.

Extreme Tourism

What is extreme tourism?
- Often involves physically challenging activities often with an element of risk
- locations with dangerous landscapes (like mountains or deserts)
- often with a difficult climate and limited accessibility (extreme heat or cold).

Case Study – Antarctica
Antarctica is becoming increasingly popular for tourists to visit, especially as climate change is changing it – people want to visit it before its too late.

Why do people choose extreme holidays?
- Feel closer to a more natural world
- Creates an adrenaline rush because it has a perception of danger
- People enjoy taking a risk
- Provides a memorable experience
- People are looking for something different.
- Modern day transport makes it easier to get to
- Last chance before the environment changes.

| Positives of tourism in Antarctica	Negatives of tourism in Antarctica
Guidelines are in place to reduce environmental impact	Tourists need services to be provided for them such as toilets, equipment hire and shops, changing the natural environment.
Helps scientists to discover vital information about wildlife and climate change.	Cruise ships have struck icebergs causing oil spills which damages the environment and poisons the wildlife
Preservation can be helped by increasing awareness of the unique environment	Too many vehicles on the ice may cause it to change shape and leave dents in the ice
	Animals become stressed because of the crowds of people causing them to abandon eggs or their young

What is being done to preserve Antarctica?
- The IAATO have been set up to only allow a small number of tourists on land at one time.
- Ships are not allowed to use heavy oil so it is not too damaging if a spill occurs
- Tour companies and tourists can be fined for polluting the environment
- The treaty of Antarctica has been set up and agreed by many countries to stop anyone building on Antarctica, preserving its natural environment

Butler's Tourism Life Cycle Model

Butler proposed that most tourist resorts go through a six stage model and he called this the tourism life cycle model. It states that most tourist resorts start on a very small scale and get bigger and bigger until stagnation occurs. Within the 6 stages the following happens.

1. **EXPLORATION** - a few hardy and adventurous people looking for something that is special in terms of its culture or natural beauty. There may be no tourist services available and local people will not be involved in the tourist industry.
2. **INVOLVEMENT** - local people start to notice that there are increasing numbers of tourists visiting. They start businesses to provide accommodation, food, guides, and transport.
3. **DEVELOPMENT** - Big companies start to see the area as a tourist resort and therefore start to invest money in the region. They build large hotel complexes and sell package holidays. This makes the numbers of tourists increase and massively expands the number of job opportunities for locals.
4. **CONSOLIDATION** - The local economy is dominated by tourism and many local people will have jobs in tourism. The resort will still grow, but some of the older buildings will start to become unattractive and attract a lower quality client base.
5. **STAGNATION** - competition from other resorts, rowdiness and a loss of the original features (e.g. if it had a great beach but that is now crowded and full of rubbish) can cause the resort to stop growing. The number of people going levels off then starts to decline, threatening local businesses and services.
6. **DECLINE OR REJUVENATION?** - From the stagnation point onwards there are 2 basic possibilities: Decline can be slow or rapid, and regular visitors are replaced by people seeking a cheap break or day trippers. Rejuvenation involves a cash injection from either a private company or the government, to create a new attraction within the original resort to boost its popularity - such as the Surf Reef at Bournemouth.
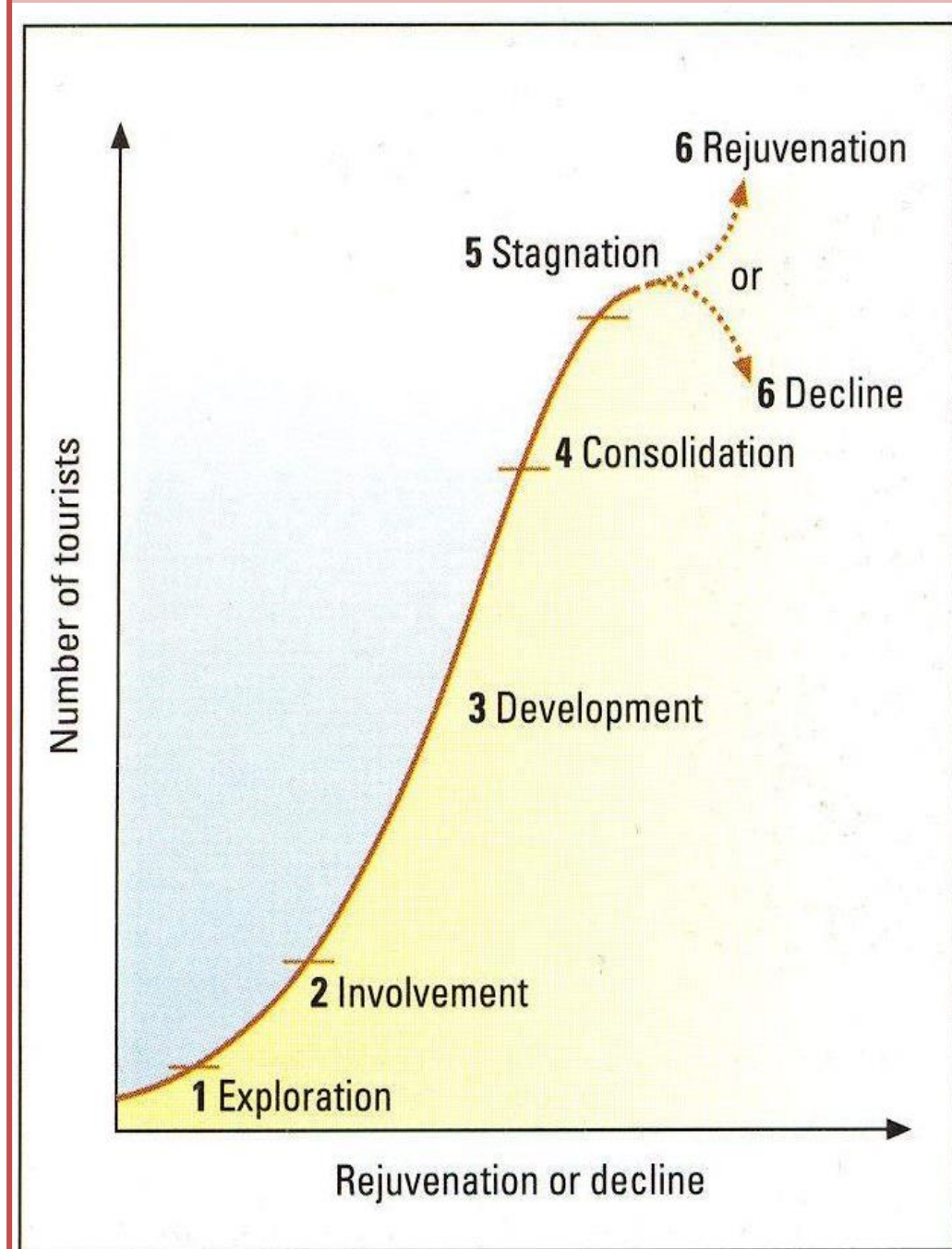
Key words

Tourist - A tourist is a person who travels to a place that is not their normal place from 1 day up to a year.

Tourist industry - The tourist industry means all the activities that tourists take part in and the services that support them.

HIC – High Income Countries

LIC – Low income countries

Disposable income - income remaining after deduction of taxes and social security charges, available to be spent or saved as one wishes.

Human (man-made) characteristics - features where people have built particular services which would have not naturally been there to encourage visitors.

Physical (natural) characteristics - features which have naturally occurred and are normally big and distinctive.

Mass tourism - when large numbers of tourists visit the same destination. Holiday companies arrange charter flights to transport tourists. Many holidays include everything you will need from flights to food. These are called all-inclusive package holidays

Extreme tourism – a niche type of tourism which normally involves visiting dangerous (environmentally or human) areas and taking part in often dangerous activities

Year 8 BVT
Our World

Early challenges to Religion

In **Medieval England** people had secure beliefs about religion:
Religion played an important part in peoples lives because they believed God watched over them and things that happened to them – good or bad – was often a result of God. They believed that when they died, God judged them on whether they would be sent to Heaven or Hell.

Religion created **huge power** for the Medieval Church. They were influential in everyone's daily lives. They also had huge influence in education and medicine. **No one dare challenge the Church**, otherwise you would be punished – by the King and also God!

Things changed though…
In the **1500's Nicolaus Copernicus** wrote a book explaining his theory that the Earth goes round the sun. The church had been telling people that the earth was God's centre and therefore the sun and moon circled around the earth.
In the **1600's** a man called **Galileo Galilei** used the invention of the telescope to prove Copernicus's theory. From his observations he wrote and published a book.
The church did not like challenges to what they had been telling people – it threatened their power and influence. Many people would argued if the church was wrong about this … they could be wrong about other things.
Both men were silenced by being arrested and their books banned.
The church did soften to new scientific theories into the 1800's and re-published the work of Galilei.
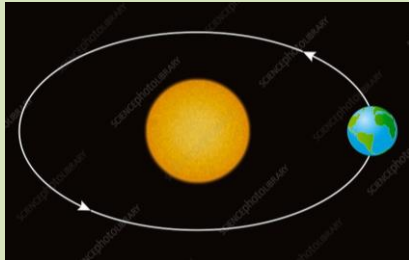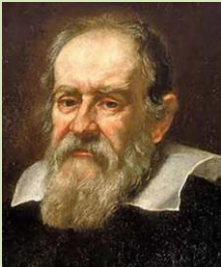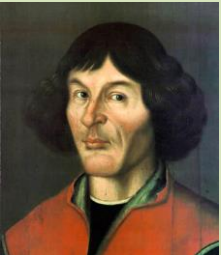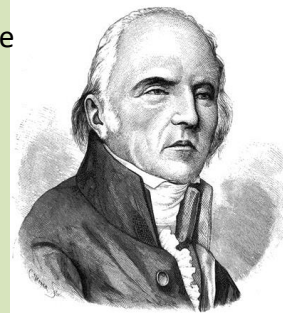
Key vocabulary
Charles Darwin
Theory of Evolution
Theory of Intellectual Design

In the **1800's we entered an age of science and technology and scientists** started to look at other ideas which had **previously been linked to religion**…
The most famous of these was **Charles Darwin** who looked into our human development

Evolution

Before the theory of evolution, it was believed that our existence came from creation by God.
"God created man in his image" (Genesis)

Scientists in the 1800's came up with **Theories of Evolution**:
Jean-Baptiste Lamarck's theory was that animals adapted due to their **behaviour.** E.g. a giraffe's neck has increased in length over centuries so it could reach for food higher up.
**Charles Darwin's** theory was that animals adapted due to their changing **environment.** E.g. an animal where its climate becomes colder, will adapt and develop thick fur.

Darwin's theory looked at adaption and evolution within ONE specie group, not the evolution of all life.
Darwin was a Christian, so did believe that God created life and animals. Darwin believed that God created animals – but **with the ability to adapt** themselves. He called this the **Theory of Intellectual Design.**

Jean-Baptiste Lamarck
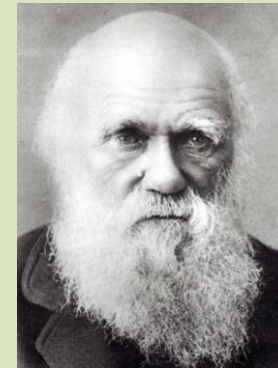
Charles Darwin
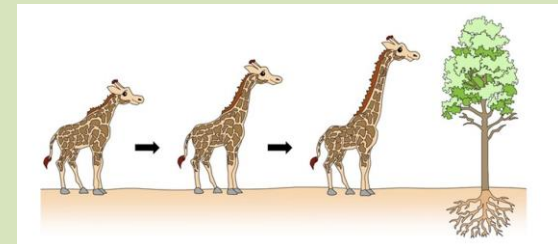
Our World

Creation Theories

It is important to know that all ideas about creation are theories. Some have more evidence to back them up, but non are 100% proven.

Religious – God created the world

This is the religious belief held by Christians, Muslims and Jews.
They believe God created the world because he is omnipotent and all-Loving. God created the world for his love of mankind.

There are 2 different types of **religious believers** when it comes to creation:

Literalists:
- These religious people believe that God created the world in 6 days and rested on the seventh.
- They believe that each day God created a different aspect (see picture right). *"In the beginning was the Word and the Word was God"*
- They believe things literally as the bible tells us.

Non –literalists:
- They believe that God created the world, but are unsure how. They **DO NOT believe literally word for word in the bible.**
- They <u>may</u> believe that God did not take 6 days – but created the universe in **6 stages**. This is very important and comes from the idea that when the bible was translated to English, the word day was used, when actually what had been originally written was **"period of time". This means that each stage – could have taken thousands... Millions of years.**
- They believe that it was the power of God that started the universe … maybe they believe that God created the explosion at the start??
- What is important to Non-Literalists is WHY God created the world - for them because he **loves them**, NOT how he created it.
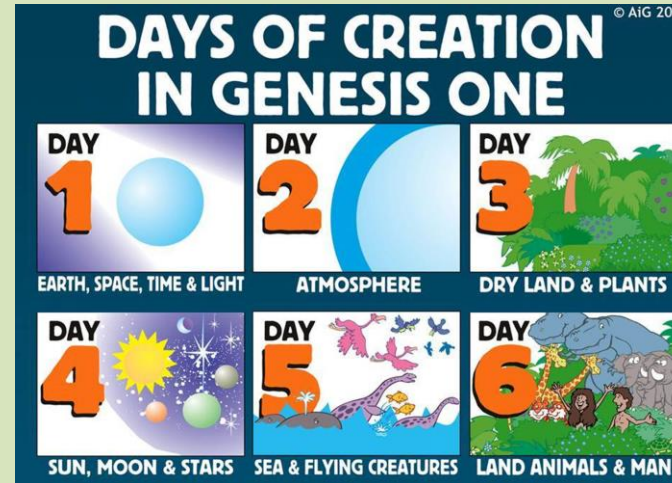
Buddhists believe there was no beginning and that the universe has always been in existence. This is similar to their belief of Samsara where life cycles around and around (reincarnation).

DAYS OF CREATION IN GENESIS ONE
DAY 1 EARTH, SPACE, TIME & LIGHT
DAY 2 ATMOSPHERE
DAY 3 DRY LAND & PLANTS
DAY 4 SUN, MOON & STARS
DAY 5 SEA & FLYING CREATURES
DAY 6 LAND ANIMALS & MAN

Can there be a cross over between religion and science?

Big bang Theory

About **14 billion years ago,** an incredibly powerful explosion occurred, called a Big Bang. Scientists theorise that energy created this explosion, however where did the energy come from? There is always the unknown question – what came before this?

Within a millionth of a second after the explosion, neutrons and electrons were created. In the explosion, enormous heat was generated, but as the universe cooler down a little, elements like helium and hydrogen were created. From these elements, stars, galaxies, planets and solar systems were formed. As the universe continued to cool, on at least one planet (which we call earth) about 3 billion years ago, life began to develop.

Today scientists have found **background radiation**. Scientists believe that this radiation has existed since the big bang.

THIS IS GONNA BE BIG!

Environment and Animals

Our World

There are many ways that Our World has changed over the last 100 years, in particular how our environment has changed.

Is mankind killing our planet?

There are **reasons** why how our planet has problems:

➢ Consumption and lifestyle mean that we are using harmful resources like fossil fuels and plastics at an alarming rate.
➢ Some countries like China are increasing their CO2 emissions
➢ Deforestation – harming our trees and oxygen levels
➢ Running out of resources – using up resources too quickly e.g. coal and oil

Key vocabulary
Global Warming
Deforestation
Stewardship
Dominion
Ummah
Sewa

Animal Testing

There are many appalling things about animal testing:
❑ Animals will endure pain when tested on
❑ Some testing is for worthless gain e.g. cosmetic testing
❑ Some testing for cosmetics could be done of human tissue samples rather than animals.

However some people believe that animals testing has benefits too:
❑ Terminal disease drugs like cancer, can be tested on animals to preserve life for humans with life threatening diseases.
❑ Procedures for transplants, e.g. heart, can be done by trainee doctors on animals in preparation for humans.

Do humans mistreat animals?

Religious Beliefs about Environment / Animals

Protecting environment and animals rights	Humans are more important than animals
• "The earth is the Lord's and everything in it" Bible • "The world is green and beautiful and Allah appointed us stewards over it" Qur'an • Muslims believe in **Ummah** – which means community. • God appointed humans with **dominion** (responsibility) to look after the world • Religious believers believe in **Stewardship** – they should protect the environment and animals. • Animal testing is cruel and does not show stewardship • Pope John Paul wrote "We must abandon these factories of death" talking about animal testing labs • Many religions are vegetarian	• God gave humans **dominion** (power) over animals. • God created animals for humans to eat • Animal experimentation can be used to help humans such as advances in medical procedure or cures for diseases. • Sikhs believing **Sewa** – meaning service to other humans. For this reason they are pro animal testing for medical reasons to help other humans • Humans life is sacred and should be preserved at whatever cost – therefore testing to preserve human life is acceptable.

BVT: Is marriage necessary?

Why do people get married?
- Love
- Commitment
- Devotion to God
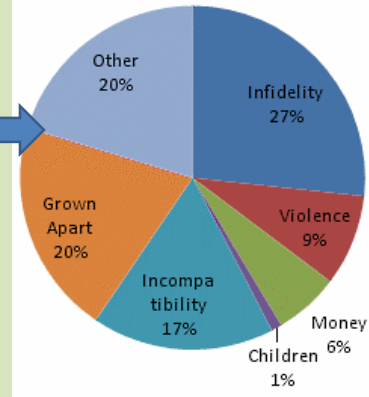- To have children – **Procreation**

Marriage Ceremonies

Why do marriages break down?

"Thou shall not commit adultery" 10 Commandments

Reasons for Divorce
- Other 20%
- Infidelity 27%
- Violence 9%
- Money 6%
- Children 1%
- Incompatibility 17%
- Grown Apart 20%

Christianity	Islam
• Bride and Groom get married in church	• Many Muslims have arranged marriages
• The Marriage is a bond between the couple and between them and God	• A marriage ceremony / contract is called a *Nikkah*
• Marriage is a *sacrament* – an important part of being a Christian	• The wedding can last up to 5 days
• *"Man shall leave his mother and father and will join with his wife and become one flesh"*	• The wedding can happen in the home and / or a mosque
• Christians will also get married to have a family, this is called *procreation.* *"Be fruitful and multiply"* Bible	• A *dowry* is paid to the bride. This is a gift from the groom to his new wife
• Christians cannot have sex outside of marriage, this is called *chastity*	• Muslims will get married to join two families together.
	• They will also get married to have a family, this is called *procreation*
	• Muslims cannot have sex outside of marriage, this is called *chastity*

Religious beliefs about divorce

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

Same Sex relationships

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

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

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

Glossary – Key terms for this unit

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

Chasity – not having sex before marriage

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

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

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

Nikkah – the name of the Muslim marriage contract / ceremony

Procreation – to have children

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

Religion and scripture that is against same sex relationships

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

Religion and scripture that supports same sex relationships

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

Intolerance
Countries where homosexual acts are illegal and in some cases punishable by death

- Death penalty under Shariah law, and implemented nationally or provincially
- Death penalty under Shariah law, but not known to be implemented
- Same-sex acts illegal

AFGHANISTAN
IRAQ
SAUDI ARABIA
SUDAN
IRAN
PAKISTAN
MAURITANIA
UNITED ARAB EMIRATES
QATAR
NIGERIA
YEMEN
SOMALIA

Homosexual acts are legal in Indonesia, with the exception of two provinces.

Countries unaccepting of homosexuality

THE WALL STREET JOURNAL.

KEY #LEARNING:

How to talk about where **you went** on holiday

How to talk about what **you did** on holiday

How to talk about what the **weather was like** on holiday

How to describe where **you stayed** on holiday

Key questions for this term:

Où es-tu allé en vacances? = Where did you go on holiday?

Qu'est-ce que tu as fait en vacances? = What did you do on holiday?

Quel temps a-t-il fait en vacances? = What was the weather like on holiday? *[What did the weather do on holiday?]*

Où as – tu logé en vacances? = Where did you stay on holiday?

Passé composé | The Perfect Tense

To make a past tense in **English**, you can start by saying **'I have, you have, he has, we have'** etc and then add a past tense word (called a *past participle*)
Eg – I have cooked, we have eaten, she has played, they have listened.

Notice in English, that last word often , but not always, ends in **–ed.**

In French, it is very similar – but a *little* more tricky!

There are 3 bits – the first 2 bits are...

Most of the time you are going to start with the verb **'to have'** ('avoir').
These are the first 2 bits you need.

j'ai = I have   **nous avons** = we have

tu as = you have   **vous avez** = you (plural) have

il, elle, on a = he / she / one has   **ils, elles ont** = they have

---

The third bit
This is the **past participle**. It will very often end in **é**, but not always!
écouté (listened), *joué* (played), *parlé* (spoken), *dansé* (danced), *acheté* (bought), *regardé* (watched), *visité* (visited), *mangé* (eaten)

The third bit
Sometimes, past participles end in different letters:
bu (drunk), *lu* (read), *connu* (known), *attendu* (waited), *fini* (finished), *choisi* (chosen), *fait* (done

Saying that you went somewhere / went back / returned / arrived / left …

For a **small number** of verbs – usually expressing movement - , we are going to use the verb '**être**' (=to be) to help make the past tense.

je suis= I am   **nous sommes** = we are

tu as = you are   **vous êtes** = you (plural) are

il, elle, on est = he / she / one is   **ils, elles sont** = they are

The third bit
This is the **past participle**. It will very often end in **é**, but not always!
allé (went), **arrivé** (arrived), **rentré** (returned), **parti** (left) …

Je suis allé a Paris = I went to Paris
Les hommes sont partis vendredi = The men left on Friday
Nous sommes arrivés à neuf heures = we arrived at 9 o'clock
Ma mère est allée en ville = My mum went to town
Elles sont rentrées en septembre = They went back in September

Why the extra 'e'…? Why the extra 's'?
Think about who 'did' the verb…

Key grammar

Je suis allé/e *(I went)* Nous sommes allé(e)s *(We went)* J'ai passé *(I spent)* Nous avons passé *(We spent)* trois jours *(3 days)* une semaine *(a week)* un mois *(a month)*	en France *(to France)* en Espagne *(to Spain)* en Allemagne *(to Germany)* en Irlande *(to Ireland)* au Portugal *(to Portugal)* aux Etats-Unis *(to the USA)*	J'ai voyagé *(I travelled)* Nous avons voyagé *(we travelled)* J'**y** suis allé(e) (I went **there**) Nous **y** sommes allé[e]s (we went **there**)	en avion *(by plane)* en bateau *(by boat)* en ferry *(by ferry)* en voiture *(by car)* en train *(by train)* à vélo *(by bike)*
Il a fait chaud / froid / beau / mauvais *(the weather [it] was hot / cold / lovely / bad)* Il a plu *(it rained)* Il a neigé *(it snowed)*	J'ai logé *(I stayed)* Nous avons logé *(we stayed)* Je suis resté(e) *(I stayed)* Nous sommes resté(e)(s) *(we stayed)*	dans un hotel / un gite / un camping *(in a hotel / guest-house / on a campsite)*	au bord de la mer *(by the sea)* à la campagne *(in the countryside)* à la montagne *(in the mountains)* près d'un lac *(by a lake)* dans le nord / sud / est / ouest de… *(in the north, south, east, west of…)*
C'était *(it was)*	super / génial / fantastique / OK / barbant / nul *(super / great / fantastic / OK / boring / rubbish)*		

lundi, mardi, mercredi... *(on Monday, Tuesday, Wednesday...)* le premier jour *(on the first day)* le matin *(in the morning)* l'après-midi *(in the afternoon)* le soir *(in the evening)* d'abord *(first of all)* et puis *(and then)* après *(afterwards)*	j'ai / **nous avons** visité *(I / we visited)* j'ai acheté *(I bought)* j'ai mangé *(I ate)* j'ai regardé *(I watched)* j'ai joué *(I played)* j'ai écouté *(I listened)* j'ai fait *(I did)* j'ai vu *(I saw)* j'ai bu *(I drank)* j'ai lu *(I read)* j'ai fini *(I finished)* j'ai choisi *(I chose)* je suis allé(e) / nous sommes allé(e)s *(I went / we went)*	le centre-ville *(the town centre)* les monuments *(the sights)* les musées *(the museums)* des souvenirs *(some souvenirs)* des jouets *(some toys)* des vêtements *(some clothes)* des pâtes *(some pasta)* un film *(a film)* un livre *(a book)* un match de foot *(a football match)* de la natation *(some swimming)* du shopping *(some shopping)* des animaux *(some animals)* au golf *([at] golf)* de la guitare *([of] the guitar)* avec ma famille *(with my family)*	à / au / à la / aux *(to with a place, eg swimming pool, restaurant...)* en *(to with a country, eg France, Germany)*
Il y a eu / il y avait *(there was, were)* J'ai eu *(I had)* Nous avons eu *(we had)*	une piscine *(a swimming pool)* un cours de tennis *(a tennis court)* une grande chambre *(a big room)* avec balcon *(with a balcony)* avec vue de la mer *(with a view of the sea)*	je me suis bien amusé(e) *(I had a good time)* nous nous sommes bien amusé(e)s *(we had a good time)*	

TERM 2 FRENCH – TALKING ABOUT FOOD!

KEY #LEARNING:

How to talk about what **you like to eat and drink**

How to talk about **different meal times**

How to talk **politely ask for food** in a café

How to **politely buy something** at a shop / market

Key questions for this term:
Qu'est-ce que tu aimes manger / boire?
= What do you like to eat / drink?
Que prends-tu normalement au petit déj / à midi…? =
What do you normally have for breakfast / dinner…? Vous désirez? = What would you like ?

Partitive article

When we talk about food, we need to use the word for 'some' or 'any'. This is called the 'partitive article'.   In English, we sometimes don't bother with it.

Look at the following sentences:

For my lunch, I normally have fish and chips
For my lunch, I normally have some fish and chips
Both of these make sense.
In French, we use the following words:
Masculine – **du**
Feminine – **de la**
Plural – **des**
Words starting with a vowel – **de l'**

Examples:
Nous mangeons du pain = we eat bread
J'aime boire de la limonade = I like to drink lemonade
Quelquefois, je prends des croissants au petit déj =
Sometimes I have croissants for breakfast
Ma soeur boit de l' eau = my sister drinks water

Quantities
If we want to give the quantity of something, we use the word 'de'.
It simply means 'of'.

Je voudrais un kilo de pommes *(I would like a kilo OF apples)*
Je voudrais beaucoup de fleurs *(I would like lots OF flowers)*

Different spellings for verbs

Here are some examples of how the verb **changes its spelling** when using 'you'**:**
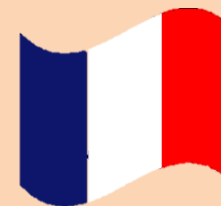
Tu aimes / vous aimez = you like
Tu as / vous avez = you have
Tu vas / vous allez = you go
Tu manges / vous mangez = you eat
Tu bois / vous buvez = you drink

Normalement *(normally)* Pendant la semaine *(during the week)* Le weekend *(at the weekend)* Le matin *(in the morning)* L'après-midi *(in the afternoon)* Le soir *(in the evening)* Avant d'aller au collège *(before going to school)*	Je mange *(I eat)* Je bois *(I drink)* J'aime manger *(I like to eat)* J'aime boire *(I like to drink)* Je prends *(I take / I have)* J'aime prendre *(I like to take / have)* Nous mangeons *(we eat)* Nous buvons *(we drink)*	Du toast / du pain grillé *(toast)* Du fromage *(cheese)* Du jambon *(ham)* Du pain *(bread)* Du beurre *(butter)* Du lait *(milk)* Du café *(coffee)* Du thé *(tea)* Du chocolat chaud *(hot chocolate)* De la confiture *(jam)* De la limonade *(lemonade)* De la pizza *(pizza)* Des pâtes *(pasta)* Des légumes *(vegetables)* Des céréales *(cereal)* De l'eau *(water)* Avec *(with)* Sans *(without)*	Je ne mange rien *(I eat nothing / I don't have anything)* Je ne bois rien *(I drink nothing / I don't drink anything)*

| C'est… (it is / they are)

Délicieux (delicious)
Génial (great)
Fantastique (fantastic)
Super (super)

Horrible (horrible)
Dégoûtant (disgusting)

Très (very)
Trop (too)
Un peu (a little bit)

Sucré (sweet)
Salé (salty) | Dans (in)…
La salle à manger (the dining room)
La cuisine (the kitchen)
Le jardin (the garden)
La cantine (the school canteen)

Avec (with)
Ma famille (my family)
Mes amis (my friends) |

As-tu faim!? (Are you hungry!?)

Tu aimes cuire? (Do you like to cook?)

| Vous désirez? (What would you like?)
Je voudrais (I would like)
J'aimerais (I would like)
Donnez-moi (give me) | Un kilo (a kilo)
Un demi-kilo (half a kilo)
Un litre (a liter)
Un pot (a jar)
Un paquet (a packet)
Une bouteille (a bottle)
Une livre (a pound)
Une tranche (a slice)
Cinq cent grammes (500 grams) | De (of) …

Pommes de terre (potatoes)
Carottes (carrots)
Pommes (apples)
Oranges (oranges)
bananes (bananas)
Poisson (fish)
Vin rouge (red wine) | S'il vous plaît (please) |

| Vous désirez autre chose? (Would you like anything else)
Et avec ça? (And with that?)
C'est tout? (Is that all?) | Ça fait combien? (How much is that?) | Ça fait… (that is / comes to) | Deux euros (two euros)
Trois euros cinquante (three euros fifty)

Voilà (there you are)

Merci (thanks)
Au revoir (good bye) |

Watch this video. You can see and hear people ordering something to eat in Paris. Might make you hungry, though…!

KEY #LEARNING:

How to talk about where **you went** on holiday

How to talk about what **you did** on holiday

How to talk about what the **weather was like** on holiday

How to describe where **you stayed** on holiday

Key questions for this term:

¿Adónde fuiste en vacaciones?= Where did you go on holiday?

¿Qué hiciste en las vacaciones?= What did you do on holiday?

¿Qué tiempo hizo en vacaciones?= What was the weather like on holiday? *[What did the weather do on holiday?]*

¿Dónde te quedaste de vacaciones?= Where did you stay on holiday?

Key grammar

The Preterite Tense

¿Cómo se conjuga?

1. Take your infinitive verb (with its –ar, -er or –ir ending)
2. Remove the the infinitive ending, leaving the 'stem'
3. Add the correct preterite ending to the verb stem

   E.g.   bail**ar**→ bail ~~bail~~ bail**é**

¿Cómo se conjuga?

The preterite endings are …

Person	-ar verbs	-er / -ir verbs
yo	é	í
tú	aste	iste
él/ ella/ Ud	ó	ió
nosotros/as	amos	imos
vosotros/as	asteis	isteis
ellos/ellas/ Uds	aron	ieron

Los irregulares clave

Some verbs are only *slightly* irregular, and only in one of their conjugations

Sacar (c-qu) - to remove	
saqué	sacamos
sacaste	sacasteis
sacó	sacaron

Jugar (g-gu) - to play	
jugué	jugamos
jugaste	jugasteis
jugó	jugaron

empezar(z-c) - to start	
empecé	empezamos
empezaste	empezasteis
empezó	empezaron

Other verbs are only *completely* irregular, in all of their conjugations

Hacer - to do	
hice	hicimos
hiciste	hicisteis
hizo	hicieron

Tener - to have	
tuve	tuvimos
tuviste	tuvisteis
tuvo	tuvieron

Ser - to be	
fui	fuimos
fuiste	fuisteis
fue	fueron

Estar - to be	
estuve	estuvimos
estuviste	estuvisteis
estuvo	estuvieron

Ir - to go	
fui	fuimos
fuiste	fuisteis
fue	fueron

Poder - to be able to	
pude	pudimos
pudiste	pudisteis
pudo	pudieron

Fui *(I went)* Fuimos *(We went)* pasé *(I spent)* pasamos *(We spent)* tres días *(3 days)* una semana *(a week)* un mes *(a month)*	a Francia *(to France)* a España *(to Spain)* a Alemania *(to Germany)* a Irlanda *(to Ireland)* a Portugal *(to Portugal)* a los Estados Unidos *(to the USA)*	Viajé *(I travelled)* Viajamos *(we travelled)* Fui allí *(i went* **there***)* Fuimos allí *(we went* **there***)*	en avión *(by plane)* en barco *(by boat)* en ferry *(by ferry)* en coche *(by car)* en tren *(by train)* en bici *(by bike)*	lunes, martes, miércoles... *(on Monday, Tuesday, Wednesday...)* el primer día *(on the first day)* por la mañana *(in the morning)* por la tarde *(in the afternoon)* por la noche *(in the evening)* primero *(first of all)* entonces *(and then)* después *(afterwards)*	visité/ visitamos *(I / **we** visited)* compré *(I bought)* comí *(I ate)* ví *(I watched)* jugué *(I played)* escuché *(I listened)* hice *(I did)* miré *(I saw)* bebí *(I drank)* leí *(I read)* terminé *(I finished)* elegí *(I chose)* nadé *(I swam)* fui / fuimos *(I went / we went)*	la ciudad *(the town centre)* los monumentos *(the sights)* los museos *(the museums)* recuerdos *(some souvenirs)* juguetes *(some toys)* ropa *(some clothes)* pasta *(some pasta)* una película *(a film)* un libro *(a book)* un partido de fútbol *(a football match)* de compras *(some shopping)* animales *(some animals)* el golf *([at] golf)* la guitarra *([of] the guitar* con mi familia *(with my family)*	al / a la / a los / a las *(to with a place, eg swimming pool, restaurant...depending on the gender of the noun)* en *(to with a country, eg France, Germany)*
Hizo calor / frío / buen tiempo / mal tiempo *(the weather [it] was hot / cold / lovely / bad)*	Me alojé *(I stayed)* Nos alojamos *(we stayed)* Me quedo *(I stayed)* Nos quedamos *(we stayed)*	en un hotel / un chalet / un camping *(in a hotel / guest-house / on a campsite)*	por el mar *(by the sea)* en el campo *(in the countryside)* en las montañas *(in the mountains)* cerca de un lago *(NEAR a lake)* en el norte/ sur / este / oeste de... *(in the north, south, east, west of...)*				
fue *(it was)*	estupendo / guay/ fantástico / regular / aburrido / terrible *(super / great / fantastic / OK / boring / rubbish)*			había *(there was, were)* tenía *(I had)* teniamos *(we had)*	una piscina *(a swimming pool)* una pista de tenis *(a tennis court)* una habitación grande *(a big room)* con balcón *(with a balcony)* con vista del mar *(with a view of the sea)*	me divertí *(I had a good time)* nos divertimos *(we had a good time)*	

TERM 2 SPANISH – TALKING ABOUT FOOD!

Key grammar

KEY #LEARNING:

How to talk about what **you like to eat and drink**

How to talk about **different meal times**

How to talk **politely ask for food** in a café

How to **politely buy something** at a shop / market

Key questions for this term:

¿Qué te gusta comer / beber?
= What do you like to eat / drink?
¿Qué tomas normalmente para el desayuno / almuerzo …?=
What do you normally have for breakfast / dinner…? =
¿Qué desea? = What would you like ?

Partitive article

When we talk about food, we need to use the word for 'some' or 'any'. This is called the 'partitive article'.   In English, we sometimes don't bother with it.

Look at the following sentences:

For my lunch, I normally have fish and chips
*For my lunch, I normally have **some** fish and chips*
Both of these make sense.
In Spanish, we use the following words:
Masculine Plural – **unos**
Feminine Plural – **unas**

Examples:
Me gustaría unos legumbres
Me gustaría unas zanahorias

Quantities
If we want to give the quantity of something, we use the word 'de'.
It simply means 'of'.

Me gustaría un kilo de manzanas
(I would like a kilo OF apples)
Me gustaría un litro de agua
(I would like a litre OF water)

Normalmente *(normally)*	como*(I eat)*	pan tostada *(toast)*	mermelada *(jam)*	No como nada *(I eat nothing / I don't have anything)*
Durante la semana *(during the week)*	bebo *(I drink)*	queso*(cheese)*	limonada *(lemonade)*	No bebo nada *(I drink nothing / I don't drink anything)*
El fin de semana *(at the weekend)*	me gusta comer *(I like to eat)*	jamón *(ham)*	pizza *(pizza)*	
Por la mañana *(in the morning)*	me gusta beber *(I like to drink)*	pan *(bread)*	pasta *(pasta)*	
Por la tarde *(in the afternoon)*	tomo *(I take / I have)*	mantequilla *(butter)*	legumbres*(vegetables)*	
Por la noche *(in the evening)*	me gusta tomar *(I like to take / have)*	leche *(milk)*	cereales *(cereal)*	
Antes de ir al colegio *(before going to school)*		café *(coffee)*	agua *(water)*	
	comemos *(we eat)*	té *(tea)*	con *(with)*	
	bebemos*(we drink)*	chocolate caliente *(hot chocolate)*	sin *(without)*	

| Es/son (it is / they are)

delicioso/a (delicious)
guay (great)
fantástico (fantastic)
estupendo (super)

horrible (horrible)
asco (disgusting)

muy (very)
demasiado (too)
un poco (a little bit)

dulce (sweet)
salado (salty) | en (in)…
el comedor (the dining room)
la cocina (the kitchen)
le jardín (the garden)
la cantina (the school canteen)

con (with)
mi familia my family)
mis amigos (my friends) |

¿Tienes hambre!? (Are you hungry!?)

¿Te gusta cocinar? (Do you like to cook?)

| ¿Algo más? (Would you like anything else)
¿Con esto/esta? (And with that?)
¿Es todo? (Is that all?) | ¿Cuánto cuesta? (How much is that?) | Cuesta…(that is / comes to) | Dos euros (two euros)
Tres euros cincuenta (three euros fifty)

Toma (there you are)

Gracias (thanks)
Au revoir (good bye) |

| ¿Qué desea? (What would you like?)
Me gustaría (I would like)
Quisiera (I would like)
dame (give me) | Un kilo (a kilo)
Un medio-kilo (half a kilo)
Un litro (a liter)
Un frasco (a jar)
Un paquete (a packet)
Una botella (a bottle)
Una libra (a pound)
Una rebanada (a slice)
Quinientos gramos (500 grams) | de (of) …

patatas(potatoes)
zanahorias (carrots)
manzanas (apples)
naranjas (oranges)
plátanos (bananas)
pescado(fish)
Vino tinto (red wine) | Por favor(please) |

Watch this video of people ordering food in a Mexico City. How much can you understand! Don't worry if you don't get too much – enjoy looking at all the lovely food!
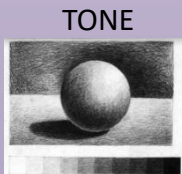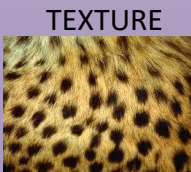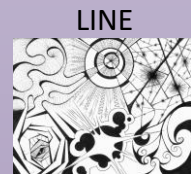
The Fundamentals of Art

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

OPTIONAL EQUIPMENT:
- DRAWING PENS
- WATERCOLOUR SET
- WATERCOLOUR PENCILS
- PAINTBRUSHES

ART MAKES PEOPLE POWERFUL

THE FORMAL ELEMENTS:

LINE

TONE

SHAPE/FORM

COLOUR

TEXTURE

PATTERN

SENTENCE STARTERS

I can vary tone by...
- layering mark making
- using a range of pencils
- varying the pressure of my marks
- using an eraser to add highlights

My work is successful because...
I could develop my work further by...
My design was inspired by the work of...

COLOR WHEEL
WARM COLORS
COOL COLORS

A R T I S T

MARK MAKING AND ARCHITCETURE	COLOUR	LINE	SHAPE/FORM/SPACE	PATTERN AND TEXTURE	TONE
PERSPECTIVE	BRIGHT	FLUENT	CLOSED	REPEATED	BRIGHT
TWO POINT PERSPECTIVE	BOLD	CONTINUOUS	OPEN	UNIFORM	DARK
ONE POINT PERSPECTIVE	VIBRANT	CONTROLLED	DISTORTED	GEOMETRIC	FADED
PARALLEL	PRIMARY	LOOSE	FLAT	RANDOM	SMOOTH
HORIZONTAL	SECONDARY	POWERFUL	ORGANIC	SYMMETRICAL	HARSH
VANISHING POINT	TERTIARY	STRONG	POSITIVE	SOFT	CONTRASTING
DISTANCE	RADIANT	ANGULAR	NEGATIVE	IRREGULAR	INTENSE
SPACE	VIVID	FLOWING	FOREGROUND	UNEVEN	SOMBRE
DIRECTION	DULL	LIGHT	BACKGROUND	ROUGH	STRONG
MOVEMENT	CONTRASTING	DELICATE	COMPOSITION	BROKEN	POWERFUL
LINEAR	COMPLIMENTARY	SIMPLE	ELONGATED	GRID	LIGHT
OVERLA[[ING	HARMONIOUS	THICK	LARGE	FLAT	MEDIUM
LAYERING	MONOCHROME	THIN	SMALL	WOVEN	DARK
	NATUARL	BROKEN	2D	ORGANIC	LAYERED
	SATURATED	OVERLAPPING	3D	SMOOTH	DEPTH
	PASTEL	LAYERED	TWISTED	ABSTRACTED	DEVELOPED
	COOL	MARK MAKING	JAGGED		SOFT
	WARM				

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?

Lesson 1: Understanding the Value Scale
Highlight / Light Tone / Midtone / Reflected Light / Shadow / Core Shadow / Cast Shadow

PERSPECTIVE AND ARCHITECTURE
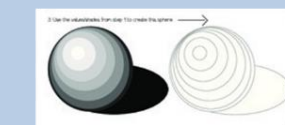
1-Point Perspective

2-Point Perspective

KEY FORMAL ELEMENTS LINKED TO ARCHITECTURE

A **LINE** is the path left by a moving point, eg. A pencil or a brush dipped in paint. A **LINE** can take many forms, eg.
Horizontal, diagonal or curved.
A **LINE** can be used to show contours, movements, feelings and expressions.
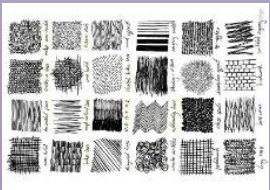
A **SHAPE** is an area enclosed by a **LINE**. It could be just an outline or it could be shaded in.
FORM is a three dimensional shape such as a sphere, cube or a cone.

Sculpture and 3D design are about creating **FORMS**
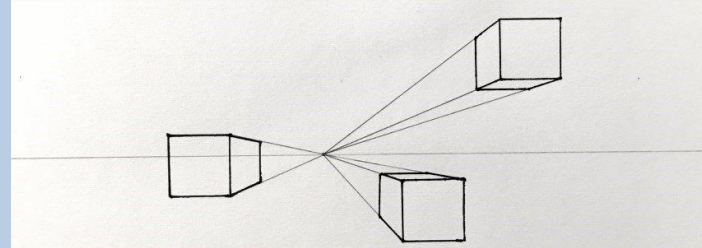
Jon Measures:

- British mixed media artist based in Los Angeles.
- Measures is a graphic designer, illustrator and teacher.
- Measure's work often combines lots of view points of cities and urban landscapes.
- He creates mixed media work, using; paint, photography, digital editing, spray paint and collage.
- His work layers images together which in turn is a metaphor for the many layers and elements of city living.
- Measures includes buildings, roads, signs, lights, all manner of objects found in cities within his work.
- A lot of Measure's work focuses on the themes of; belonging, home, community.

Artists you could research:
- Jon Measures
- Ptolemy Dean
- Zaha Hadid
- Denise Scott Brown
- John Piper

ONE POINT PERSPECTIVE:
A drawing that uses **one point perspective** contains only one **vanishing point** on the **horizon line**. Using this type of **perspective** you could create a drawing of a road, railway, hallways, or building.

eye level
horizon line
vanishing point
lines receding to the vanishing point
vertical lines
horizontal lines
ground line
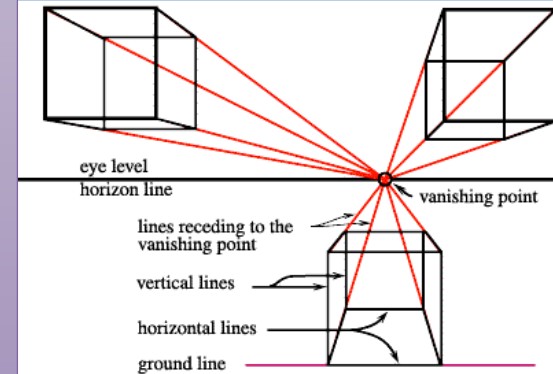
TWO POINT PERSPECTIVE:
Two point perspective allows you to view the object or images so that you are looking at one corner with two sets of **parallel lines** moving away from you. Every set of **parallel line** has it's own **vanishing point**, hence **two point perspective**.

PERSPECTIVE AND ARCHITECTURE

MANUAL MANIPULATION

Manual manipulation is when you use various techniques and media by hand to alter or edit photos and art work.

Mark making is an important element to building depth of detail, tone and texture.

WEAVING
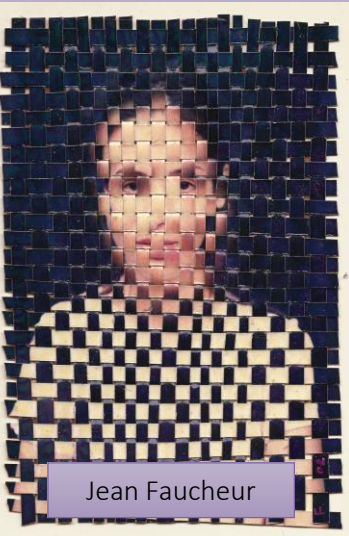
Jean Faucheur

STITCH
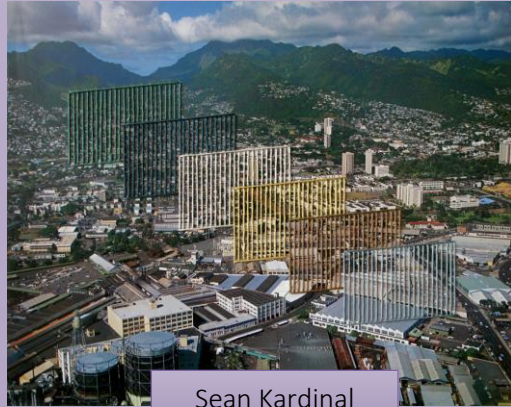
Sean Kardinal
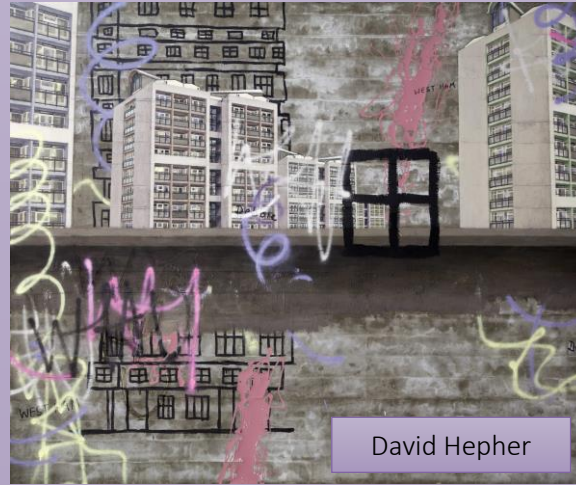
David Hepher

DRAWING

Lucas Simoes

3D RELIEF

Abigail Reynolds

Alexey Bogolepov

Turning your Jon Measures inspired designs into 3D outcomes.
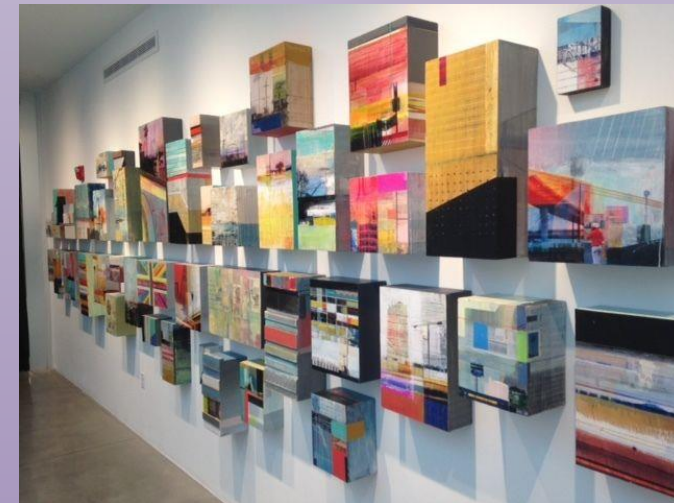
- Layering mark making
- Layering textures
- Mixed media
- Paint, ink, pencil, pen, photography
- Manual manipulation

Y8 GRAPHICS

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

TYPOGRAPHY

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

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

FORMAL ELEMENTS

GRAPHIC DESIGN

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

What does a graphic designer do?

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

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

Y8 GRAPHICS

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

MOOD BOARDS

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

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

WATERCOLOUR

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

PACKAGING DESIGN INSPIRATION
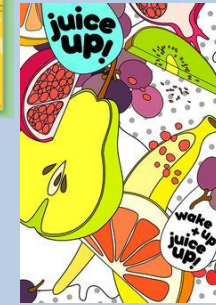
What is the difference between labelling and annotating?

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

INITIAL DESIGN IDEAS

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

COLOUR THEORY

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

Complimentary colours are colours which are opposite to each other on the colour wheel. Examples of complementary colour combinations are: Red and green; yellow and purple; orange and blue; green and magenta. Complementary colour combos tend to be bold, which is why sports teams often use this formula for their colours.
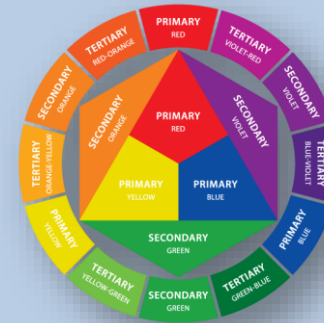
Graphic Designers:
Sarah Dennis
Georgina Luck
Jennifer Hines
Alice Pattullo
Mike Steffanini
May Van Milligan

DESIGNER ANALYSIS PROMPTS

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

HOOKS & RIFFS

Exploring Repeated Musical Patterns

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

D
Dynamics
The volume of the Music

R
Rhythm
The order of the notation duration

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

S
Structure and Form
How the composition is built

M
Melody
The Tune

I
Instrumentation
The instruments used by the composer

T
Tempo
The Speed of the Music

H
Harmony
All the musical parts that support the Melody

Language for Learning/Music Theory

Italian terms relating to Tempo:
Allegro-fast, Vivace-lively, Presto-very fast, Andante-walking pace, Adagio-slow, Largo-very slow,

Accelerando (accel.)-to get faster, Ritardando (rit.) and Rallentando (rall.)-to get slower

Italian terms and musical symbols relating to Dynamics:
Fortissimo (ff)-very loud, Forte (f)-loud, Mezzo Forte (mf)-medium loud, Mezzo Piano (mp)-medium soft, Piano (p)-soft, Pianissimo (pp)-very soft,

Crescendo (cresc.)-to get louder, Diminuendo (dim.)-to get quiter

Italian terms and musical symbols relating to Articulation:
Legato – smooth; Staccato – short and detached

Hooks and Riffs

Exploring Repeated Musical Patterns

Year 8 Music

A. Key Words

HOOK – A 'musical hook' is usually the 'catchy bit' of the song that you will remember. It is often short and used and repeated in different places throughout the piece. HOOKS can either be a:

MELODIC HOOK – a HOOK based on the instruments and the singers

RHYTHMIC HOOK – a HOOK based on the patterns in the drums and bass parts or a

VERBAL/LYRICAL HOOK – a HOOK based on the rhyming and/or repeated words of the chorus.

RIFF – A repeated musical pattern often used in the introduction and instrumental breaks in a song or piece of music. RIFFS can be rhythmic, melodic or lyrical, short and repeated.

OSTINATO – A repeated musical pattern. The same meaning as the word RIFF but used when describing repeated musical patterns in "classical" and some "World" music.

BASS LINE – The lowest pitched part of the music often played on bass instruments such as the bass guitar or double bass. RIFFS are often used in BASS LINES.

MELODY – The main "tune" of a song or piece of music, played higher in pitch that the BASS LINE and it may also contain RIFFS or HOOKS. In "Classical Music", the melody line is often performed "with" an OSTINATO pattern below.

B. Famous Hooks, Riffs and Ostinatos

Bass Line Riff from "Sweet Dreams" – *The Eurythmics*

Riff from "Word Up" – *Cameo*

Rhythmic Riff from "We Will Rock You" – *Queen*
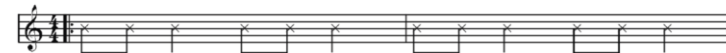
Vocal and Melodic Hook from "We Will Rock You" – *Queen*

we   will,   we   will   rock   you.

Rhythmic Ostinato from "Bolero" - *Ravel*
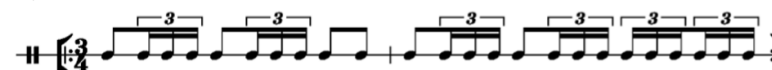
Bass Line Ostinato from "Habanera" from 'Carmen' - *Bizet*

Ostinato from 2nd Movement of Symphony No.101 (The Clock) - *Haydn*

C. Music Theory

REPEAT SYMBOL – A musical symbol used in staff notation consisting of two vertical dots followed by double bar lines showing the performer should go back to either the start of the piece or to the corresponding sign facing the other way and repeat that section of music.

TREBLE CLEF – A musical symbol showing that notes are to be performed at a higher pitch. Also called the G clef since it indicates that the second line up is the note G.

BASS CLEF – A musical symbol showing that notes are to be performed at a lower pitch. The BASS LINE part is often written using the BASS CLEF. Also called the F clef since it indicates that the fourth line up is the note F.

Offbeat! Exploring Reggae and Syncopation

D Dynamics
The volume of the Music

R Rhythm
The order of the notation duration

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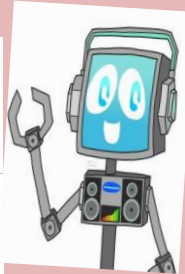The highness or lowness of a note in sound frequency

S Structure and Form
How the composition is built

M Melody
The Tune

I Instrumentation
The instruments used by the composer

T Tempo
The Speed of the Music

H Harmony
All the musical parts that support the Melody

Language for Learning/Music Theory

BAR – A division of music.

BASS LINE – The lowest texture in reggae

CALYPSO – A style of Afro-Caribbean music

CHORD – Group of two or more pitched notes.

OFF BEATS – A term applied to rhythms that emphasise the weak beats of a bar.

REGGAE – National music of Jamaica

RESTS – A space of silence played between notes

SYNCOPATION – A way of changing a rhythm

TEXTURE- Layers of sound combined to make music.

Offbeat

Exploring Reggae and Syncopation

A. How did Reggae develop?

REGGAE is one of the traditional musical styles from JAMAICA. It developed from :

→ REGGAE ←

MENTO
A form of Jamaican FOLK MUSIC like CALYPSO popular in the 1950's.

SKA
Fast dance music that emerged in the 1950's fusing American R&B with MENTO rhythms and featuring ELECTRIC GUITARS, JAZZY HORN SECTIONS and characteristic OFFBEAT RHYTHMS.

ROCK STEADY
A more vocal style of dance music which used RIFFS, SIMPLE HARMONIES, OFFBEAT RHYTHMS and a strong BASS LINE.

Reggae was first heard in the UK in the 1950's when immigrants began to settle. During the 1960's, people began importing singles from Jamaica to sell in UK shops. Now, Reggae is known as the national music of Jamaica.

B. Where is Jamaica?

CARIBBEAN

C. What are Reggae Songs About?

Reggae is closely associated with RASTAFARIANISM (a religious movement worshipping Haile Selassie as the Messiah and that black people are the chosen people and will eventually return to their African homeland). The LYRICS of Reggae songs are strongly influenced by Rastafarianism and are often political including themes such as LOVE, BROTHERHOOD, PEACE, POVERTY, ANTI-RACISM, OPTIMISM and FREEDOM.

D. Offbeat Rhythms & Syncopation

OFFBEAT RHYTHMS – Rhythms that emphasise or stress the WEAK BEATS OF A BAR. In music that is in 4/4 time, the first beat of the bar is the strongest, the third next strongest and the second and fourth are weaker. Emphasising the second and fourth beats of the bar gives a "missing beat feel" to the rhythm and makes the music sound OFFBEAT, often emphasised by the BASS DRUM or a RIM SHOT (hitting the edge of a SNARE DRUM) in much Reggae music.

ONBEAT RHYTHM GRID

OFFBEAT RHYTHM GRID

SYNCOPATION – A way of changing a rhythm by making some notes a bit early, often so they cross over the main beat of the music giving the music a further OFFBEAT feel – another common feature of Reggae music.

Pulse
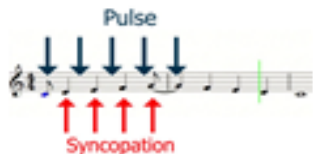
Syncopation

E. Musical Features of Reggae

OFFBEAT RHYTHMS AND CHORDS (see D)
SYNCOPATED RHYTHMS AND MELODIES (see D)
SUNG LYRICS (see C)
LEAD SINGER often with BACKING SINGERS sometimes singing in CALL AND RESPONSE (see F3) accompanied by a Reggae band which often features: BRASS INSTRUMENTS and SAXOPHONES, ELECTRIC GUITARS, BASS GUITAR, KEYBOARDS, DRUMS AND PERCUSSION INSTRUMENTS.
VOCAL AND INSTRUMENTAL IMPROVISATIONS (see F2)
MELODIC RIFFS (see F5)
SLOW, RELAXED ('chilled!') TEMPO
4/4 METRE/TIME SIGNATURE
Most Reggae songs are structured in VERSE AND CHORUS/POPULAR SONG FORM.
SIMPLE HARMONIES (see F4)

THICK TEXTURAL LAYERS (see F9) "The Reggae Trifle" is an example of how many Reggae songs are 'layered'.

LYRICS (MELODY)
SYNCOPATED RHYTHMS
RIFFS
OFFBEAT CHORDS
BASS LINE RIFFS

F. Reggae Key Words

1. MELODY – The main 'tune' of a piece of music, often sung by the LEAD SINGER.
2. IMPROVISATION – Previously unprepared performance.
3. CALL AND RESPONSE – Similar to a "Question and Answer" often the call sung by the lead singer and answered by the backing singers or instruments (the response) – musical dialogue.
4. SIMPLE HARMONIES – using a limited number of CHORDS, mainly PRIMARY TRIADS such as the TONIC, DOMINANT and SUBDOMINANT chords.

Key of C major

Chord I   Chord IV   Chord V

5. RIFF – A repeated musical pattern. Often the BASS GUITAR plays repeated MELODIC BASS RIFFS in Reggae songs.
6. BASS/BASS LINE – The lowest pitched part of a piece of music often played by the BASS GUITAR in Reggae which plays an important role.
7. CHORD – 2 or more notes played together in HARMONY.
8. RHYTHM – A series of long and short sounds.
9. TEXTURE – Layers of sound combined to make music.

G. Who was Bob Marley?

BOB MARLEY was a famous reggae singer, SONGWRITER, and musician who first became famous in his band The Wailers, and later as a SOLO ARTIST. He was born Nesta Robert Marley on February 6th, 1945 in Nine Mile, Saint Ann, Jamaica. Although he grew up in poverty, he surrounded himself with music and met some of the future members of The Wailers. Bob Marley became involved in the Rastafarian movement and this influenced his music style greatly. Bob Marley and The Wailers worked with several famous musicians before becoming famous on their own. His career flourished and he became a cultural icon. He was the first international superstar to have been born in poverty in a Third-World country.

There are 3 study areas in these first two terms- there are many learning opportunities.

1) The *Walking on Ice Exercise* where we learn the *2 Truths* and the idea of *Internal & External Character.*
2) *An Adventure Underground* – we learn how to analyse a play and interpret the characters. We rehearse key scenes in the **Traverse.**
3) Storytelling – Part 1- We practise writing and acting a **monologue** in the **Storytelling Genre** and all the techniques that it involves.

1: The Walking on Ice Exercise

This task builds on your learning of mime technique **Task** in Y 7. You will work in pairs and take it in turns to act out a scene and to give meaningful feedback as an **informed** audience member.

The Two Truths

The Truth of *Everyday Reality*

The Truth of the *Imagination*

The Walking on Ice exercise can also teach me… a very important thing and that is that acting is essentially about …

Belief & Communication –
Actors need to believe in the situation that their character is in – we call this, the Character's **Given Circumstances**. Working out your character's **Given Circumstances** is an important **rehearsal technique**. In this exercise the **Given Circumstances** are that the character is on their way home, it is dusk, the only way home is across a frozen lake, there is no way round, in some places the ice will not bear your weight, however you make it across, safely.
You need to be able to believe in this situation and make a picture of your surroundings in your mind's eye

The Walking on Ice exercise can teach me.. That for artists, including **theatre artists** there are **two truths-** firstly the **truth of our Everyday Reality** where a chair is a chair and a person is a person and a floor is a floor. Secondly, for artists, there is another truth to consider and that is the **Truth of our Imagination** where the floor can be a frozen lake and the actor can be any character they choose to be

The **Completing the Communication Exercise**
Students or groups work in pairs taking turns to perform and to watch and give feedback. The ones receiving feedback always repeats back to the observer what they understand SO THAT the observer can check that they have properly understood and the communication is complete

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Belief & Communication

Belief	**Communication**
Visualising your setting and situation- the frozen lake, the sun going down. **Feeling** the cold air on your arms and face. **Hearing** the ice creak as you place your weight on it	The way that you **show** things to the audience through your body, actions and voice- how you **walk slowly** and **carefully** to show that the ice is fragile- how you **tense** and **focus** your facial expressions to show the danger – how you hold yourself close to show the cold or how you hold your arms out to balance

Internal and **External** acting technique
Your believing and communicating are part of your internal and external acting skills. Have you noticed how lots of our ideas in drama are in two parts – the way we learn about mime, for example. Be sure to look at the charts on the walls in the drama studio

Task 2: Appreciating & Interpreting a written Play

An Adventure Underground

Analysing a play, **Interpreting** a character and **adapting** your voice to **communicate** a character, are the key things I want you to learn in this study.

Other things that you will learn in this topic

- What we mean by **character interpretation** and how to interpret characters in a play text.
- How to apply your understanding of *The Ingredients of a Play* (Y7 T1) to your study and practical exploration of a play text.
- How to **identify** key **themes** and meaning in a play text.
- How to **summarise plot.**
- How to answer examination type questions in writing.
- How to use vocal skills to **communicate character.**
- How to play exaggerated and fantasy characters.
- How to extend your vocal & physical range.
- What we mean by *blocking* as a rehearsal technique.
- What is **Traverse Staging**
- How to block and act out (stage) a play in **the traverse**
- How to **sustain a role.**
- What we mean by, **analysis** & **evaluation.**

An Adventure Underground
This short play runs about 40 minutes in performance

An Adventure Underground
Textual studies
This is a written play. We read through it together and discuss the many environmental and philosophical themes that it raises. Later on we work practically on selected scenes and rehearse them for performance with the audience on two sides.

An Adventure Underground

Plot summary
Five very different children chase a wicked sweet shop keeper who has stolen one of theirs teddy bears and disappeared down an old well. The children discover a whole hidden underground world and encounter some truly fabulous and magical creatures in their pursuit of justice. A pursuit that leads them to some very important lessons and some very useful changes.

The First read through (Rehearsal techniques)
This is when the cast of a play get together for the first time to explore the play and try out their interpretation of their characters

The Two Truths in Drama
For most people one truth, the **Truth of our Everyday Reality** is enough. For artists, including theatre artists there is a second truth, the **Truth of the Imagination.** As children we are expert and familiar with this truth of make – believe. As we get older we can lose this ability or find it difficult to make-believe. Many plays explore this dilemma- Peter Pan is perhaps the most famous.

Analysing

Analysing a play means breaking it down into the things that it is made from. A play is made from its ingredients [character, plot genre etc.] so, let's analyse how the playwright has applied the ingredients of a play in this play- *An Adventure underground*

Interpreting

Interpreting is the ways that we *work out* what a character is like. We **interpret** is like by what say and the way that they say it (the dialogue), and on what they do and the way that they do it (stage directions).

Themes – 'what the play is about'

If you think, you will remember that, THEME is one of the Ingredients of a Play. You may recall that the theme of a play is what the play is about- its meaning, message, the issues that it explores. Well, *An Adventure Underground*, explores a great many issues that concern us today.

Goodworm speaks in detail about the ways in which the *Topplings* (that's us, people, homo sapiens) are ruining the Earth. He laments the way that we are taking so much from the planet and giving almost nothing useful back in return.

The play also explores the idea of change. What we might want to change in ourselves and indeed whether it is possible to change. The five children all discover ways to add to their character so that they become more complete, fully rounded and happy young people.

The Characters

'The people in the play'

5 Children:

Ellie

Bella

Scarlet

Simon

Charlie

The Sweet Shop Keeper

Goodworm

Spell Beetle

The Setting

'Where & when the scene is set'

It is not made clear which part of the country the play is set in. The year is hard to work out too. In some ways it is slightly old fashioned – in others it is very modern. We could say that it is, 'timeless' in this sense. The majority of the action takes place far underground in a vast and strange subterranean kingdom partly dug out by the Sweet Shop Keeper.

Genre- 'the style'

Adventure and magical. Almost fairy-tale

Speech – 'the words the characters say'

The play has two writing styles; **dialogue** and **narration.** Some of the language in the narrative passages is rich and theatrical.

Plot – 'the storyline'

A wicked Sweet Shopkeeper emerges from an old well and steals Charlie's Teddy Bear, Edward. The children decide that they must go after her to retrieve Edward. At the ootom of the well they discover a secret underground kingdom. In their pursuit they discover just how powerful and wicked the sweet shopkeeper has become. Fortunately they meet some kind and wonderful creatures who do their best to help the children in their quest.

The actor's use of body

Facial Expression (FE) - This can show a character's thoughts, feelings and mood.

Posture- This is a word to describe the way we sit or stand. A poor posture could show laziness or 'attitude'. An upright posture can show the character is interested & engaged.

Gesture- We make gestures with our hands and head mostly. Gestures can 'say,' 'everything is okay' or, a pointed index finger at someone can show that the character is telling that person off.

Body Language (BL) - In life, we are often unaware of the way our body is 'talking'. For example, we may not be aware that our fidgeting shows we are nervous or our folded arms show that we are feeling a bit defensive. Drama students have to be aware of what their body is saying to make sure it is showing what their character is like and what they are feeling at the time.

Tempo rhythm in movement

This is the speed and manner in which a character acts and moves. A fast, erratic movement can show someone is flustered or over excited. A slow, measured gesture or movement can show a character is confident, assured and reassuring to the audience. It is an important idea when interpreting and communicating a character.

What do all of these different **facial expressions'** say?
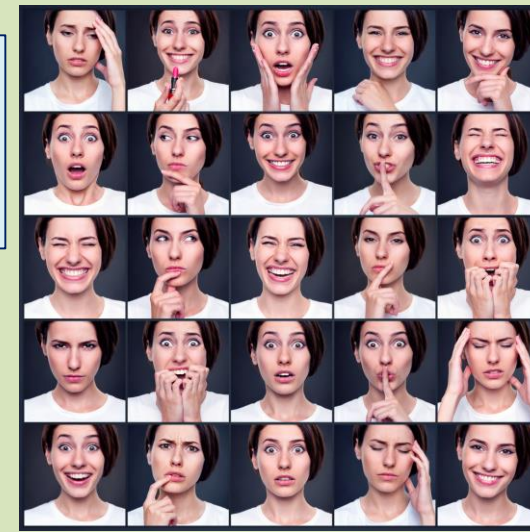
Internal & External Mime Technique

Internal technique	External technique
Picturing	Shape
	Size
Seeing	weight
	Texture
Imaging	Temperature
	Function
Focusing	Taste
	Smell
	Value
Concentrating	Fragility

Internal & External Character

Internal character	External character
Personality	Accent
	Tone
Feelings	Pitch
	Volume
Thoughts	Facial Expression
	Gesture
Background	Posture
	Body Language
Attitude	Costume
	Make up
Motivation	

Characters don't really exist in two parts, any more than we do in everyday life. It is simply a way of looking at things and gives a good framework for **analysing** and **evaluating** drama work.

Mime is the technique of creating an **illusion**, of making something appear to be there when it is not. To do this successfully, the actor needs to **picture** the object clearly in their mind's eye and then **show** its shape etc. the spectators can also 'see' the object in their imagination

Actors are trained in the same way at most serious drama schools. There are classes in voice and movement to improve actors **external technique** and ability to communicate their characters effectively. There are also **internal technique** acting classes where actors develop their **imagination, concentration** and other aspects of their **Internal technique**

Using your voice and body to show the fantastic characters in, *An Adventure Underground*

New ideas in voice and body

Tempo rhythm in voice & movement

This is the speed and manner in which a character speaks and moves. A fast, erratic voice and movement can show someone is flustered or over excited. A slow, measured voice and movement can show a character is confident, assured and reassuring to the audience. It is an important idea when interpreting and communicating a character. Goodworm speaks in a very slow, measured voice with extended pauses.

Four key Theatre Disciplines to remember

Devising – planning & making your play

Characterisation- choosing what your character is like & how you will 'play' them

Improvisation – making it up as we go along.

Mime – creating an illusion that something is there when it is not.

The actor's use of body (Physical Skills)

Facial Expression (FE) - This can show a character's thoughts, feelings and mood.

Posture- This is a word to describe the way we sit or stand. A poor posture could show laziness or 'attitude'. An upright posture can show the character is interested & engaged.

Gesture- We make gestures with our hands and head mostly. Gestures can 'say,' 'everything is okay' or, a pointed index finger at someone can show that the character is telling that person off.

Body Language (BL) - In life, we are often unaware of the way our body is 'talking'. For example, we may not be aware that our fidgeting shows we are nervous or our folded arms show that we are feeling a bit defensive. Drama students have to be aware of what their body is saying to make sure it is showing what their character is like and what they are feeling at the time.

The actor's use of voice (vocal skills)

Tone - The tone of the actor's voice can show what the character is like (their character & personality) it can show their attitude, mood, thoughts and feelings.

Pitch - This is how high or low the voice is. A high pitch can show that the character is excited, for example.

Accent- A character's accent depends on which part of the country, or which part of the world they are from. Accent can also show their background; if they are from a wealthy or underprivileged family, for example.

Volume- This is how loud or quiet the voice is. A loud voice can show confidence. A quiet voice can show that the character is timid, or considerate.

Things to assist your study in this scheme

Remember to use **Evaluative Vocabulary (EV)** when you are evaluating in class and when you are doing written evaluations at home. Here's the list again with a few additions now that you are more experienced.

Four key intellectual skills to learn and practise

Analysis

This is the skill of breaking things down into the things that they are made from so that you can see how they work and fit together. Analysing a script will look at the character and dialogue and plot etc. because that is what it is made from (The Ingredients of a Play- remember?). Analysing a performance of a play will also include looking at voice, actions, costume, set etc. There is no judgement in analysis.

Evaluation

This is always a judgement. Evaluation is the skill of **identifying what is effective** in a script or performance and what **might be improved**. You have an **Evaluative Vocabulary** list so you can choose more useful and specific words than, 'good' and 'bad'.

Interpretation

The ways that we *work out* what a character or someone is like. We base many of our ideas on what a character says and the way that they say it (the dialogue), and on what they do and the way that they do it (stage directions).

Communication

The various ways that you make your thoughts, ideas or your character's thoughts, feelings and personality clear to others- your audience or reader. We communicate through speaking, acting and writing in drama.

A list of EV words-

Use these in your evaluations

Intelligent **Imaginative** Creative **Skilful**
Exciting **Informative** Dull **Inspiring**
Clear Unclear **Muddled** Confused
Misguided Shallow **Compelling** Moving
Heart - Wrenching Pedestrian **Emotionally**
- Draining Spirited **Believable** Credible
Convincing Powerful **Entertaining**
Riveting **Gripping** Captivating **Engaging**
vapid **vacuous Harrowing**

Rehearsal techniques and ways of staging a play: Two new ideas to consider

Rehearsal techniques
Preparing the play for performance

The creative team – actors, directors, designers work out their plan for a play in the **rehearsal process.** It is where they make the play ready for performance. It involves working out the moves, ways to say lines and character relationships. Directors use a variety of rehearsal techniques to assist their actors. **Blocking** is a typical rehearsal technique. We will learn and practise others in future topics. There are also technical rehearsals where the focus is on getting the lighting changes and sound cues worked out and 'cued' and learned. The actors practise their entrances and exits and any costume changes in the technical rehearsal.

Ground Plans

These are the different ways that a stage and auditorium can be laid out. Up till now you have naturally had the audience on one end when you have performed your drama work. In fact, this is called, End – On staging. There are several other ways of arranging the audience in relation to the stage and they have a significant impact on the actor audience relationship and present different challenges to actors and directors

Traverse Staging –
Audience on 2 sides

You will find out some of the challenges that **Traverse staging** presents when you get the chance to stage the opening introductory scene of, An Adventure Underground
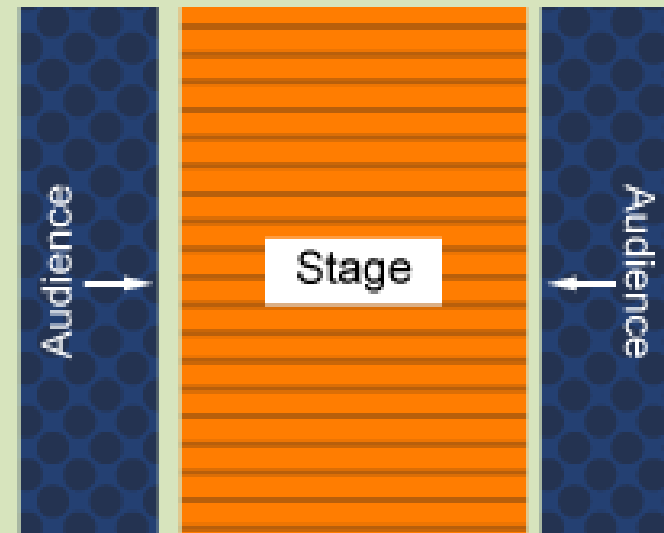
Traverse

Traverse
Experienced directors and many actors enjoy the challenge of staging & performing a play with the **audience on two sides.** Audiences too can enjoy being able to see themselves across the stage. It gives me the sense that we are all in it together- the actors and audience all collaborating in the performance

Blocking in rehearsal

In theatre we use this word for at least three things. In year 7 you saw how it could mean not **blocking** your partner's ideas while improvising. You will also have heard me tell students to not stand in front of another actor on stage and block them from being seen by the audience. Here we will use it to mean, the way we position and move actors (and set) on the stage when we are rehearsing scenes from the play. When blocking a play it is important to consider 2 things

i)   Why does the actor/character make the move.
ii)   Ii) how does it look is it aesthetically pleasing – remember aesthetics from Year 7?

Blocking can include the actors gestures etc. too.

Storytelling: Part 1

Things that you will study in this scheme

Study Focus — Term 2 & Term 3

These terms we have an in depth study of one particular **genre** of performance. (You may remember from Y7 that, **genre** is one of the *Ingredients of a play.)* The **genre** that we will study and practise is, *Storytelling.* It is a fashionable style of performance with both screen writers and playwrights. It is a style greatly appreciated by the leading examination boards so, we take time now, in year 8 to explore the theory behind it and develop the practical skills for you to perform effectively in this genre.

You will see how this particular style of performance consists of a combination of two separate genres; **Narrative** and **Dramatic** (see below). You will explore the ways in which you can improve the quality of the stories that you write by including a range of *Literary Devices* (see below). You will then work to combine this new knowledge with the vocal skills that you practised in our last scheme (***An Adventure Underground***) and the extensive work that you did on mime in terms 3 and 6 of year 7. You will develop a story from one of your typical mornings, making use of the *Literary Devices* to devise and perform a solo piece / monologue. You will further develop your storytelling skills in a fictional duologue that you devise collaboratively.

Some of you will notice that I have used the word spectator as well as, audience on the diagram opposite.

Ground Plan of stage positions. End – On staging.

You may remember in our last work we experimented with having the audience on two sides of our stage. We called it, **Traverse staging.** At this moment in our studies, It is useful for us to take a little more thoughtful look at the way we usually stage plays because we are going to be dividing the stage into <u>separate parts</u> so that each part can represent a different time and place with the audience on one end- You may remember, I called this, **End – On staging** .

Up stage Right (USR)	Up Stage (US)	Up Stage Left (USL)
Stage Right (SR)	Stage (CS)	Stage Left (SL)
(DSR)	Down Stage (DS)	Down stage left (DSL)

Audience	Auditorium	Spectators

Stage left and **right** are from **the point of view of the actor looking out at the audience.** Once upon a time the stage went up at the back so that the audience could see the actors who were 'higher up'-so the back was called 'Up stage'. What do you think DSR stands for?

Split stage- [composite staging]

This is where the stage is divided into different parts and each part represents a different setting (time & place). We use the idea quite a bit at GCSE. You will use the idea of split staging when you prepare and perform, An Accidental death. The actor stage left will be in one time and place eg Coventry Road, Birmingham, 4.02 am. And the actor stage right will be in a different time and place eg. Weaver's cottage, Nottingham 7.09 am

<u>not to be confused with…</u>

Split focus

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

Four key processes and the Learning cycle

Devising
Planning and making.
Rehearse.
Going over things- a scene, a speech, an entrance so that everyone knows it off by heart. We rehearse a play to try out ideas, see if they work, learn and remember what we are doing until we are ready to perform it for an audience. We will begin to use different rehearsal techniques in Year 8. You will notice that we used the idea of, 'blocking a scene in our earlier work on *'An Adventure..'*
Perform.
Sharing our work with an audience.
Evaluate
After a performance of our own work or a play we have watched, we reflect on what worked, what didn't work, were our ideas understood, did our intentions come across a thorough evaluation informs us and others how to improve the drama work next time in the next devising process. <u>You will get to evaluate a class performance in this Scheme of Work.</u>

The idea of the *4th wall* in theatre

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

What it means to <u>keep</u> the 4th wall

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

What it means to <u>break</u> the 4th wall

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

Monologue

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

Duologue

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

Cue

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

<u>**Mono**</u> = one. <u>**Duo**</u> = two. **Logue** = an old word for speech, so, monologue = speech for one.

Devise/ Devising-

Meaning, **'to plan & make'** – Devising is one of the 4 key acting disciplines that we study and use.

We use the 6 *Ingredients of a Play* when devising

Character   **Setting**
Plot   **Theme**
Genre   **Speech**

Key knowledge & Previous Learning

Character, Plot, Setting, Theme, Speech & Genre. See Y7 KO1 for definitions

Freeze Frame

A still image like a photograph. The actors must be perfectly still- even their eyes. This can be difficult. It helps to choose one thing to focus your gaze on. Until you have more experience, it is better not to focus on another student.

You made a poster of all the other things that you need to consider when making a freeze frame. Can you remember them?

The Hands Free Zone

After the summer holidays, you may have forgotten about this idea. I will do my best to remind you. I have put the guidelines and reasoning from Y7 below.

Students do not generally put their hands up in class unless they want to ask a specific question or have a request. Most class activities and discussions take place without raising hands. The teacher will invite different students to contribute at different times so that everyone participates in lessons. The teacher will always either, give you an opportunity to discuss and prepare a response first with other students or, frame the question in such a way as you cannot be wrong. We are not interested in being right or wrong- we are interested in learning. So, no hands, unless there is an emergency of course, otherwise, no hands. You will be reminded and have lots of time to practise so that it becomes a habit for you in drama.

Speaking in the first person singular

You will be encouraged to speak in the 1st person singular – that's; **I, me, my & mine,** in lessons when speaking about your own experience. This avoids confusion and allows you to begin to take responsibility for your ideas and what you are saying. Again, you don't have to worry because you will be reminded and have lots of time to practise so that it becomes a habit for you in drama.

Personal & Interpersonal Skills (PIPS)

Working with others can be difficult as you have probably realised by year 8. They may have different ideas to you, they may not have any ideas, they might not listen to you etc. It can be tricky. In this scheme of work you may need to be **patient** whilst other students are reading parts that you want to read. You may also need to be **courageous** and volunteer to read a part, or risk reading one of the parts that are outside your usual range or might allow you to extend your vocal and physical range- **Goodworm and Spellbeetle** are excellent choices for those wishing to seriously take a leap, as **Spellbeetle** would say!!

PIPS are the skills and qualities that you need to work effectively in a group, they include; **tolerance, courage, kindness, honesty** and many more.

Do you remember when you designed your PIPS poster for home work in year7? What skills and qualities are you bringing to your group work? What skills and qualities are you still working on?

Basketball

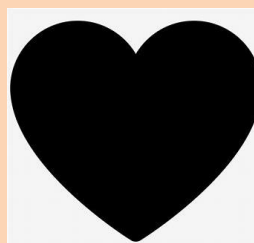**What muscles do we need to Warm-up in Basketball and how would you do this?**
1. Pulse Raiser
2. Dynamic stretches
3. Skill practice/ Drills

Basic Rules
1. Game is started by tip off from the centre spot.
2. The game is played by 5 players made up of guards, forward and a centre.
3. Two referees and two table officials will officiate the game.
4. If a ball goes over a touch line an inbound pass is taken. If a basket is scored then to ball will be passed in from the back line.
5. To score the ball must cross the opposition's basket.
6. The traveling rule is applied when a player lifts their pivot foot before releasing the ball.
7. Double dribble – Once you stop your dribble you can not start it again without a shot or pass.   You can also not bounce the ball with two hands.

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

Effort and Engagement

Implementation of the Academic Standards to the PE Environment:
- Arrive promptly and change within the allocated time.
- Always have the correct PE kit.
- Fully engaged throughout the lesson, striving to improve performance of skills and techniques at every opportunity.
- Motivated and contributes 100% effort.
- Can work independently to complete a warm-up, drills and competitive situations.
- Perseveres and doesn't give up, demonstrates resilience when practicing and applying skills to different situations/ game scenarios.
- Participates in co-curricular opportunities at lunch and after school.

Controlling the ball: A triple-threat basketball position is a posture where a player can do one of three things: dribble the ball, pass the ball, or shoot the ball. A player in triple-threat stance keeps their centre of gravity low with one foot forward, and they hold the ball close to their hip away from the defender

Passing: Three main types of pass.
Chest pass
Bounce pass
Over head pass

Dribbling: Dribbling allows you to move with the ball, however the ball must be bouncing.

Shooting: There are two main types of shots that allows you to score baskets.
Set shot: this is played from the triple threat position and is used for free throws worth 1 point, shots inside the arc worth 2 points and shots outside the arc worth 3 points.
Lay-up: this is played off the dribble with a jump towards the basket, the aim is to place the ball into the basket or just onto the backboard.

Coaching Points – create space
- Provide quick support angles to receive the ball in space.
- Create space for other players by moving the defenders.
- Can you play passes wide areas and move opposition defenders out of position?
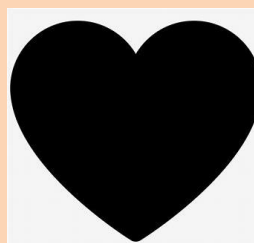- Creating space in attacking areas can lead to scoring opportunities.

Football

Physical Ability and Technique

Controlling the ball: Using different parts of the body – this could be the feet or thigh. Remember to cushion the ball.

Passing: There are 3 types of passes. <u>Side foot</u> pass, <u>driven</u> pass with the laces and <u>a lofted</u> pass. Using the side of the foot allows you to pass accurately over a short distance, a driven pass allows you to pass the ball on the floor, but a greater distance. Finally, a lofted pass allows you to lift the ball in the air over players. Remember to keep your standing foot next to the ball when you make the pass.

Dribbling: Dribbling allows you to move the ball quickly around the pitch using the inside and outside of your feet and keeping the ball close to your feet and your head up.

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

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

Attacking – keeping possession: making a number of passes allows your team to keep possession and advance up the field.

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

Expectations and Routines

What muscles do we need to Warm-up in Football and how would you do this?
1. Pulse Raiser
2. Dynamic stretches
3. Skill practice/ Drills

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

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

Effort and Engagement

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Coaching Points – create space
- Provide quick support angles to receive the ball in space.
- Create space for other players by moving the defender.
- Can you play passes wide areas and move opposition defenders out of position?
- Creating space in attacking areas can lead to goal scoring opportunities.
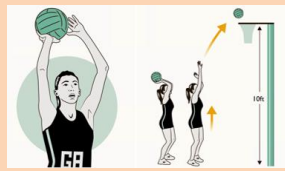
Netball

Can you lead a Netball Team warm-up?
- What activities would you include?
- How clear are your instructions and can your team follow them?
- Can you control a team drill and ensure skills are performed with the correct technique?

The basic rules of Netball:
1. You cannot travel with the ball (*Footwork Rule*)
2. There are only 7 players on court from each team.
3. You cannot snatch or hit the ball out of a players hands (*Contact Rule*).
4. When defending the ball, you must stand 3 feet away from the person with the ball (*Obstruction Rule*).
5. Players cannot hold the ball for more than 3 seconds, throw it to yourself (*Held Ball and Handling Rules*)
6. Players are not allowed to move into the areas that they are not designated to (*Offside Rule*).
Throw In:
When the ball goes out of play, the throw in is taken from behind the line, where the ball went out of play.

Game understanding:
- Which rules result in a free pass or a penalty pass?
- How many different ways can you create space to receive a pass?
- How many different ways can you lose your defender?
- What set patterns of play can you create?

Effort and Engagement

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Defending Third	Centre Third	Attacking Third

Passing:
Shoulder Pass
1. Control the ball with both hands, placing it above your shoulder, then remove the supporting hand.
2. Fingers should be spread behind the ball.
3. Feet should be should width apart.
4. Bring the ball back, bending your elbow.
5. Bring the arm forward, following the ball through until your arm and fingers are in front of you, in the direction you want the ball to travel.
6. As you bring your arm forward, step forward with the opposite foot to the arm you are holding the ball in.

Shooting
1. Rest the ball on your preferred shooting hand with the other hand supporting on the side.
2. Feet should be shoulder width apart.
3. Look at the back of the ring.
4. Bend your knees, lift your heels off the floor and push the ball up and over the top of the ring to loop into the net.

Defending:
The purpose of defending is to try to get the ball off the other team and gain possession.
- Stage One Defending: Mark your player
- Stage Two Defending: Mark the ball
- Stage Three Defending: Mark the space

Rugby

Expectations and Routines

Warm-up for injury prevention:
What injuries could occur in Rugby if you did not complete an appropriate warm-up?
Does the warm-up you complete vary depending on the position you play?

Basic Rules
1. Game is started by kicking the ball from the centre spot forwards.
2. The U13 game has 13 players and 25 min half.
3. Referee and two assistants will officiate the game.
4. The ball must be passed backwards
5. If a ball goes over a touch line an uncontested lineout is taken.
6. To score the ball must cross the opposition's goal line. They **try** is worth five points, a **conversion** is worth two points, and a **goal kick** is worth three points this could be a penalty kick or drop goal.
7. Tackling – Must be below the shoulder.
8. 6 player scrum –strike and push.
9. Ruck and maul – unlimited.
10. Fend-off below armpits.

Game understanding:
• Are there different ways to pass the ball?
• What types of tackle are there?
• Why is body position so important in the scrum?
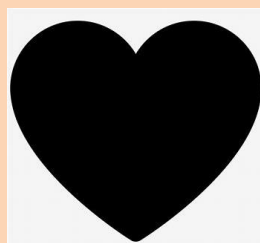
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• Perseveres and doesn't give up, demonstrates resilience when practicing and applying skills to different situations/ game scenarios.
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Physical Ability and Technique

Passing: Hold the ball in two hands with your fingers spread across the seam, with your chest facing forward. Draw the ball back across one hip, keeping your elbows slightly bent, as you turn your chest away from the target.
Sweep the ball off your hip as you swing your hands through an arc, keeping your elbows close to your body. Release the ball with a flick of the wrists and fingers.
Follow through with your fingers pointing to the target - chest high in front of the receiver. **The pass must go backwards.**
Tackling: Tower of power, cheek to check, ring of steel.
Fly hack: A kick at the ball on ground made by a running player.
Scrum: Crouch, bind, set will be instructed by the referee and players can only push when the ball has entered the scrum. Players must maintain their tower of power, the must also maintain their bind.
Kicking at goal:
Conversions: Lean the ball forwards slightly to expose the "sweet spot". Before pacing out your run-up, stand over the ball in the kicking position to make sure it is in the right place to strike. Run up to the ball in an arc with your body turned 45 degrees. Swing through the strike zone, making contact with the instep of your foot.
Drop kick: Hold the ball in two hands, pointing downwards. As you step forward with your non-kicking foot, raise the ball to waist level. As you drop the ball onto the ground, simultaneously bring your knee up ready to strike the ball on the bounce. Just as the ball touches the ground, bring your kicking foot through and strike the ball with the lower part of your instep.

YR8 Textiles Knowledge Organiser

Textiles are highly adaptable and can be constructed to maximise different properties including a very high strength and weight ratio, which means less materials can eb used to make strong and robust products.

Textiles are available in many different forms including rolls, yarns, and fibres. Some textiles can be very cheaply produced and some are extremely expensive, especially when using rare fibres and labour intensive techniques.
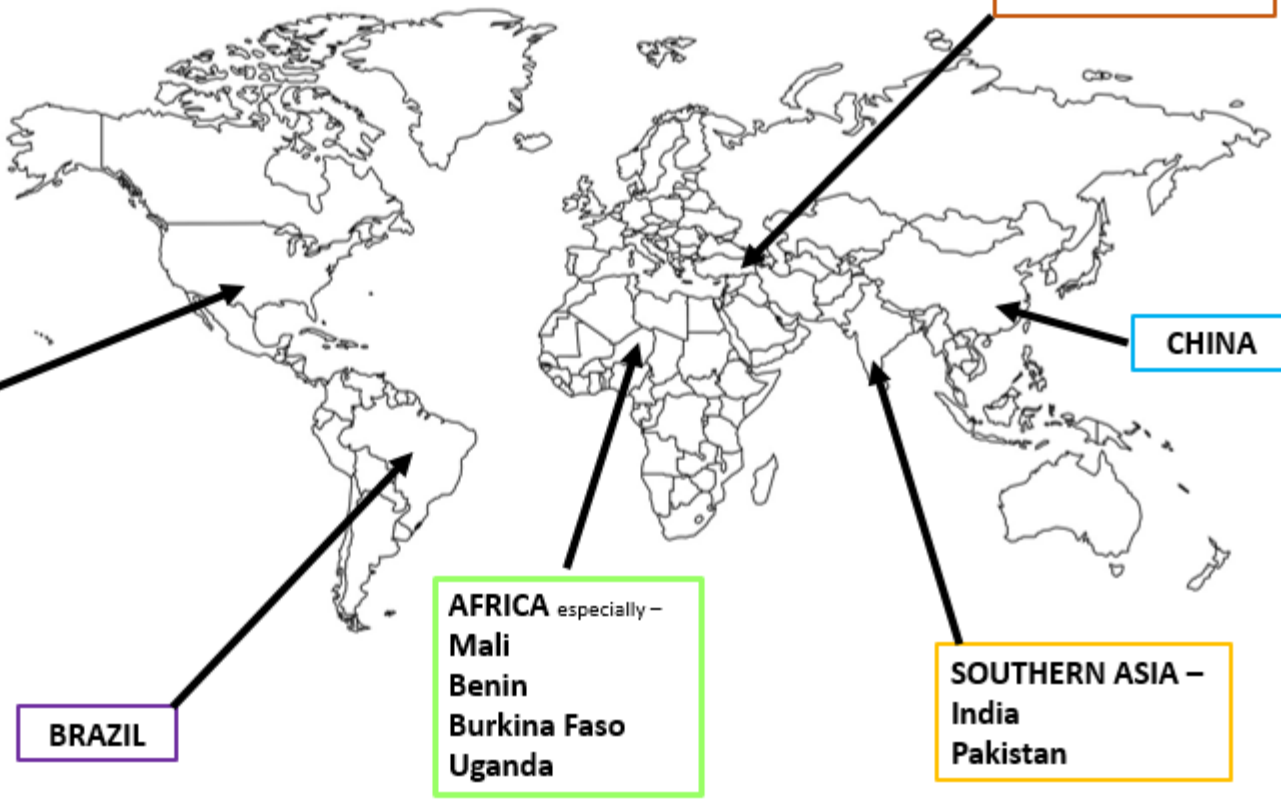
The categories of textile are:

- Natural Fibres
- Synthetic Fibres

- Woven Textiles
- Non-woven Textiles
- Knitted Textiles

Natural Fabrics

Plant-based natural fibres	Characteristics	Uses
Cotton	Soft and strong, absorbent, cool to wear and easily washable. Cotton fabrics can be given a brushed finish to increase their properties.	Most clothing, especially shirts, underwear and denim can be made from cotton. Also used for towels and bedsheets.

Animal-based natural fibres	Characteristics	Uses
Wool	From fine and soft to thick and coarse, it is warm and naturally crease resistant. Can shrink. Often blended to add functionality.	Jumpers, coats, suits and accessories worn for warmth. Specialist wools are very soft and expensive. Felt products and carpets.
Silk	Very soft and fine finish, gentle on skin, can feel cool in summer yet warm in winter, drapes well, absorbent, strong when dry (weaker when wet), tricky to wash, can crease easily and is usually expensive.	Luxury clothing including nightwear and underwear, soft furnishings, bed sheets, silk paintings and wall hangings.

Synthetic Fibres

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

Blended and Mixed Fibres

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

Where In The World Does Cotton Grow?

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

WESTERN ASIA –
Turkey
Uzbekistan

CHINA

USA especially –
Texas
Arizona
New Mexico
Georgia
Alabama
California

BRAZIL

AFRICA especially –
Mali
Benin
Burkina Faso
Uganda

SOUTHERN ASIA –
India
Pakistan

The Cotton Plant - *Gossypium hirsutum*

A Cotton flower.

The ripening Cotton Boll.

The Cotton Boll ready to harvest.

Cotton is grown in large fields.

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

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

The cotton is harvested either by machine or by hand.

The cotton bolls are collected and taken to a factory.

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

The cleaned fibres are spun into a yarn.

These yarns are woven or knitted into material.
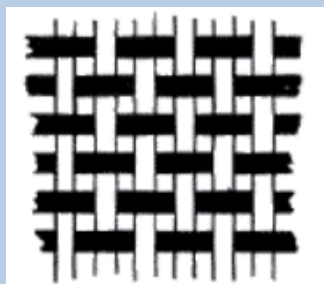
Woven Textiles

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

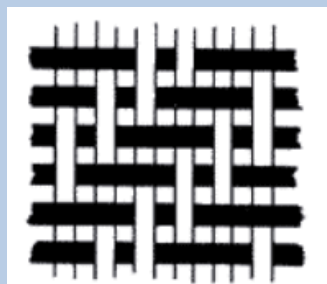There are many different types of weave, the most common of which is plain weave.

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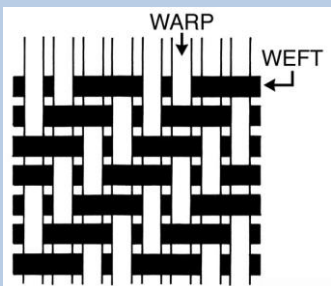
Plain Weave   **Twill Weave**

Non-Woven Textiles

Non-Woven fabrics are made directly from fibres without being spun into yarns. The most commonly

available non-woven fabrics are bonded fabrics made from a web of fibres held together with heat or adhesive. Common uses of non-woven fabrics include disposable products such as garments worn by surgeons and crime scene investigators, dishcloths and interfacings. Non-woven fabrics can be given special treatments such as flame resistance to make head rest covers on trains and aircrafts.

Felting

This is a mechanical process which has traditionally been done by hand, but is now mainly machine produced. It involves matting together wool or synthetic fibres using a combination of heat, pressure,

moisture and movement to mesh fibres together in a random way. Felt can be formed into shapes

when wet, but it does not have any elasticity and will drape well when dry. It is snot strong and can pull apart under tension, but will not fray like woven fabrics.

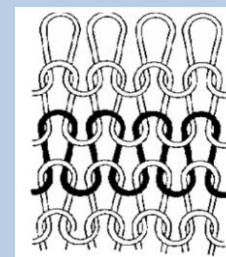|	Characteristics	Uses
Knitted fabric	Warm to wear, different knits have different properties such as stretch and shape retention. Weft knits ladder and unravel more easily than warp.	Jumpers, cardigans, sportswear and underwear fabrics, socks, tights and leggings craft items such as soft toys.

Knitted Textiles

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

Weft Knitting

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

Warp Knitting

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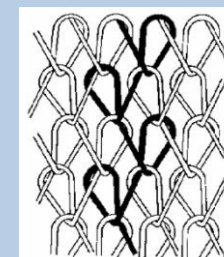
Weft Knit   **Warp Knit**

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

Design Strategies

You can use design strategies to come up with initial design ideas without getting you on a bad one. Designing is a really complex process and there are several different ways of 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.

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.

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**.

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.

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.

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.

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

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

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

Tie - Dye

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

Natural Fabrics are best for tie-dye.

Pre washed **cotton** is more absorbent. New cotton fabric has a waxy finish applied to stop it creasing too much.

Chemical Fabric Dyes   Elastic bands   Dye Bath/Vat   Apron   Goggles   Gloves

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

Tie

Dye

TIE-DYE PATTERNS AND TECHNIQUES

The Circle

Step 1:
Pinch fabric at the centre of where your bullseye will be. Pull upward into a cone shape, guiding the fabric with other hand.

Step 2:
Wrap a rubber band 1 to 2 inches below tip of fabric, then continue binding fabric with desired amount of rubber bands.

The Spiral

Step 1:
Pinch fabric at the center of where your spiral will start. Twist until all fabric is in a spiral shape.

Step 2:
Bind spiral with 3 to 4 rubber bands, overlapping rubber bands to create 6 to 8 wedge shapes.

The Sunbursts

Step 1:
Pinch fabric and pull upward about 1 to 2 inches. Secure with rubber band and repeat for desired number of sunbursts.

Step 2:
Cover your fabric with the desired amount of elastic bands.

The Crackled

Step 1:
Scrunch fabric into a crumpled mound.

Step 2:
Randomly wrap elastic bands around your fabric.

The Striped

Step 1:
Pleat and fold fabric either vertically or horizontally.

Step 2:
Use rubber bands to secure pleated fabric, evenly spacing rubber bands and adding as many as desired.

The Marble

Step 1:
Place marbles on your fabric and then pull the fabric around them.

Step 2:
Wrap an elastic band around the marble. Repeat until you have as many as you wish on your work.

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
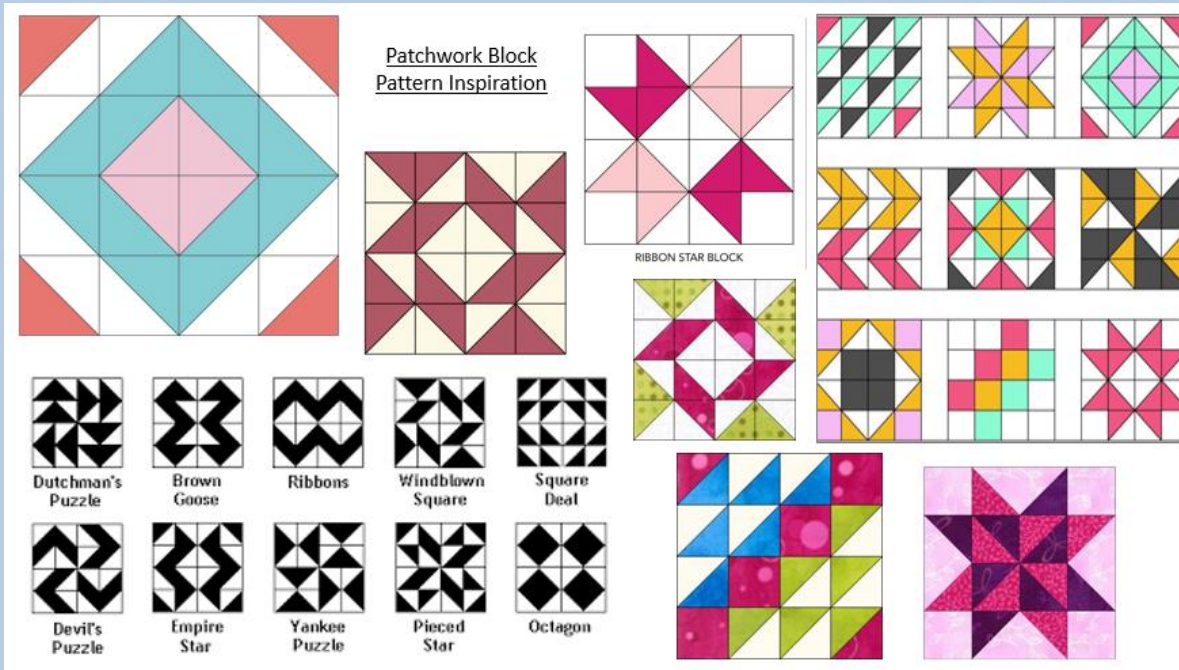
Patchwork Block Pattern Inspiration

RIBBON STAR BLOCK

Dutchman's Puzzle | Brown Goose | Ribbons | Windblown Square | Square Deal

Devil's Puzzle | Empire Star | Yankee Puzzle | Pieced Star | Octagon

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

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

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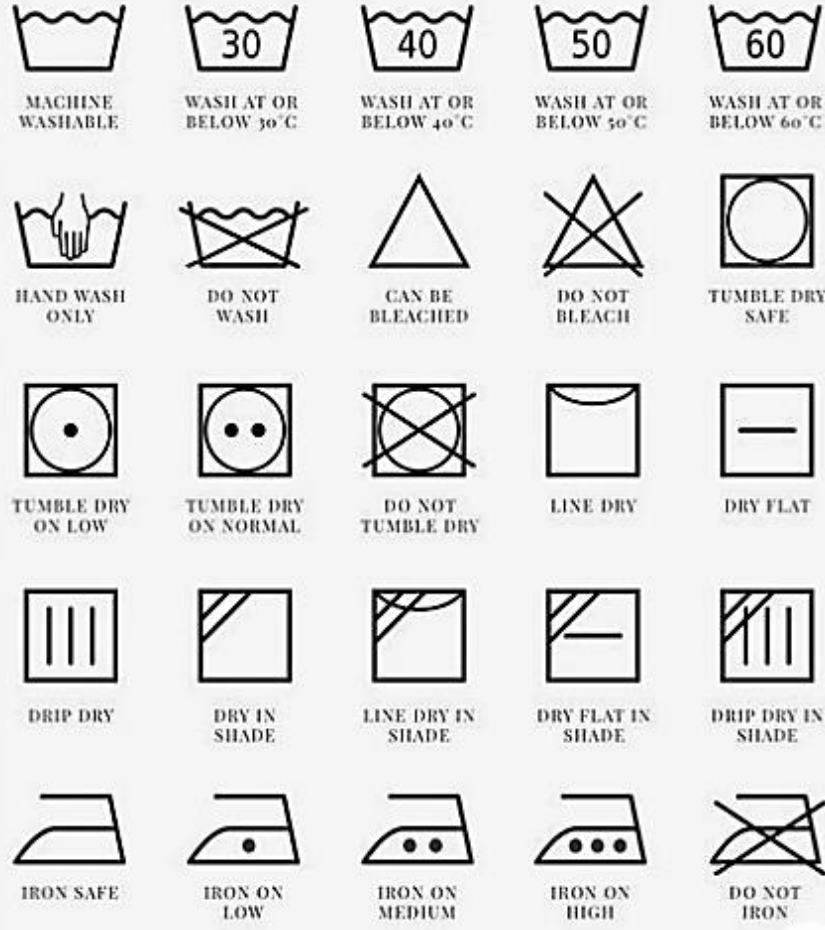
Construction Key Words

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

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

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

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

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

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

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

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

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

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

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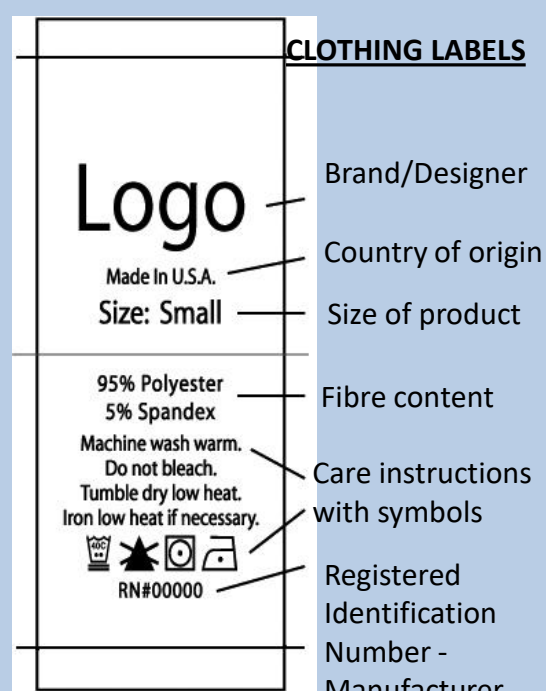

Reasons to have care labels:

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

MACHINE WASHABLE	WASH AT OR BELOW 30°C	WASH AT OR BELOW 40°C	WASH AT OR BELOW 50°C	WASH AT OR BELOW 60°C
HAND WASH ONLY	DO NOT WASH	CAN BE BLEACHED	DO NOT BLEACH	TUMBLE DRY SAFE
TUMBLE DRY ON LOW	TUMBLE DRY ON NORMAL	DO NOT TUMBLE DRY	LINE DRY	DRY FLAT
DRIP DRY	DRY IN SHADE	LINE DRY IN SHADE	DRY FLAT IN SHADE	DRIP DRY IN SHADE
IRON SAFE	IRON ON LOW	IRON ON MEDIUM	IRON ON HIGH	DO NOT IRON

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.

GOV.UK

There are four areas of information that are required to be displayed by **LAW**:
- Garment care symbols
- Country of origin
- Fibre content
- Manufacturer (Registered Identification Number)

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

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

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

Temperature Dial

This adjusts the TEMPERATURE.

Power Lead

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

Temperature Indicator

It switches off when the iron reaches the set temperature.

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

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

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.

YEAH!! FUNNY.. NO, THIS IS **NOT** WHY I'M CALLED IRON-MAN. PEPPER, GET THEM OUTTA HERE.. @#&£$

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.
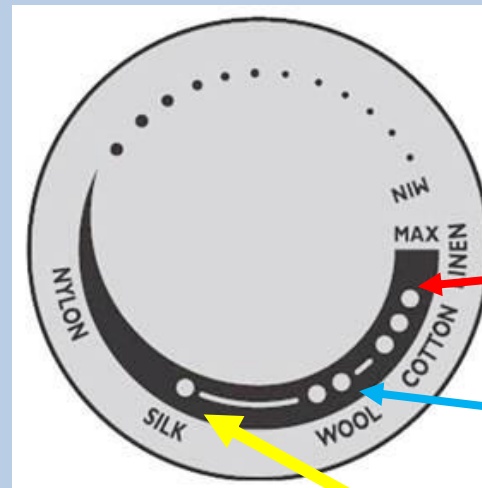
Do not iron

Iron on a HIGH heat

Iron on a medium heat

Iron on a LOW heat

Bacteria are living organisms.
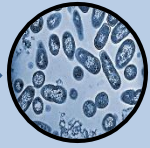
This means they need certain things to survive or like certain conditions to grow and multiply in, but what?

5 things bacteria NEED to grow

- Oxygen
- Warmth
- Moisture
- Food
- Time

FOOD MILES WHAT ARE THEY AND HOW DO THEY AFFECT OUR WORLD?

Time + distance FROM THE POINT & TIME WHERE FOOD IS *grown* TO WHERE IT IS *consumed.* THE SMALLER THE BETTER!

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.

CO₂

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.

FAIRTRADE

Food Standards

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

Lion Quality

RSPCA ASSURED

ASSURED FOOD STANDARDS

Gelatinisation

The thickening of a liquid using starch.

Getting warm
Heat starch granules in liquid

I'm swelling up
Starch granules become swollen

Heat

I'm Bursting!!
Starch granules burst

Didn't we do well
The liquid thickens and gelatinizes
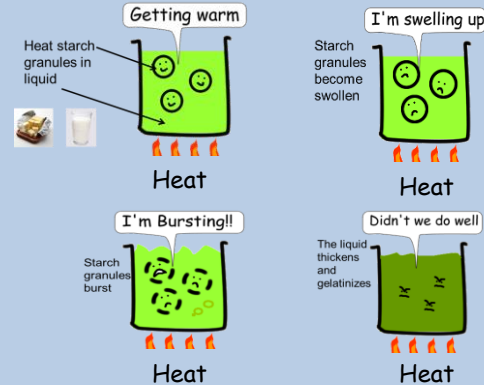
Heat

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

At 80ºC 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

EAT SEASONABLY

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

Hygiene

HYGIENE

Personal
Hair up – Reduces the risk of bacteria transferring to food through hair dropping in
Aprons on – Protects you from spillages and reduces risk of bacteria transferring to food from everyday clothing
Washing hands - regularly using hot soapy water to reduce the bacteria on your hands
Blue plasters – Blue plasters should be used to cover cuts and grazes as they will be easily seen if they accidentally fall into food.

Food – Understanding the 4 C's Concept
Cooking – thorough cooking kills bacteria so ensure food is cooked to 75°c to make sure all bacteria are killed – check this by using a food probe.
Cleaning – effective cleaning removes harmful bacteria and stops them spreading so ensure all work tops, utensils and equipment are cleaned thoroughly with hot soapy water.
Cooling – effective chilling prevents harmful bacteria multiplying so ensure all food is stored at the correct temperatures, ensure cooked food is cooled within 90 minutes.
Cross contamination – Good hygiene practice prevents Cross contamination so when raw food comes into contact with ready to eat food. For example raw meat juices spilling onto salad.
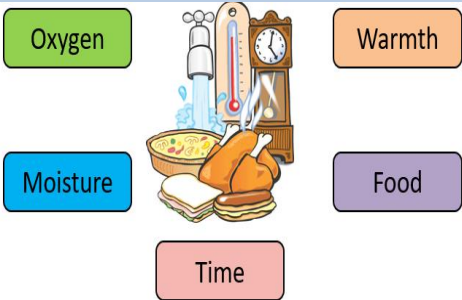
Wider thinking / further reading: www.foodafactoflife.org.uk www.grainchain.com

Knowledge Organiser – Year 8 Food

Key Processes

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

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

Don't cross-contaminate! Keep *raw meat*, poultry, fish, and their juices away from other food. Wash cutting board, utensils, and countertops with hot, soapy water after use.
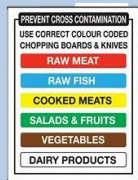
Reducing – heating up a sauce based product to evaporate the water and making the sauce thicker in consistency.

Cooking Skills

Chop
Fold
Roll
Knead
Shape
Simmer
Boil
Bake
Fry

Multicultural Foods

Fajitas - Mexico

Macaroni Cheese & Pizza - Italy

Sweet & Sour - China

Essential Nutrients

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

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

Farm to Fork Process

Logistics

Processing

Retail

Farm

Plate

Food Labelling

HARVEST FOODS
GREEN PEAS
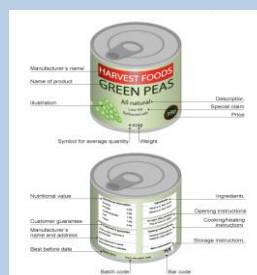
The Government ensures that food manufacturers must include certain information to protect the consumer.

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'.**

ASSURED FOOD STANDARDS

Packaging

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

PREVENT CROSS CONTAMINATION
USE CORRECT COLOUR CODED CHOPPING BOARDS & KNIVES
RAW MEAT
RAW FISH
COOKED MEATS
SALADS & FRUITS
VEGETABLES
DAIRY PRODUCTS

Design and Technology

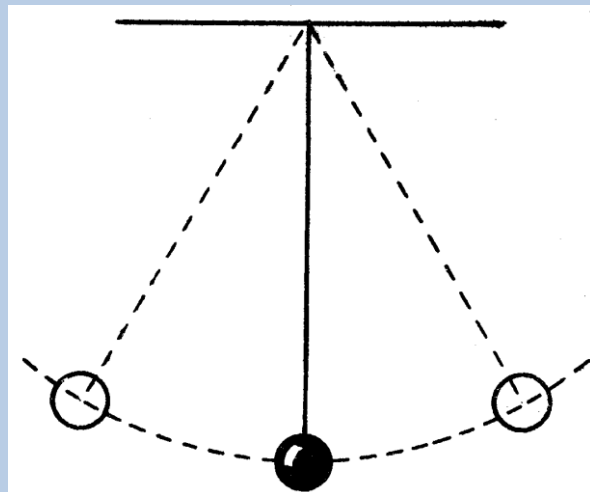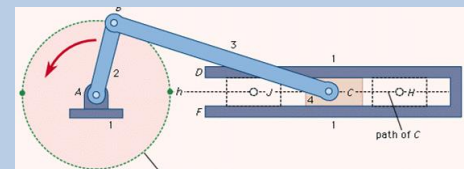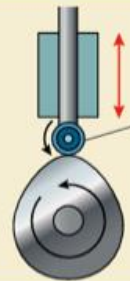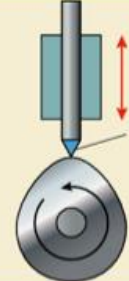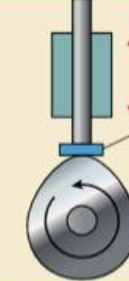|	Linear Motion			Reciprocal Motion
↗	Motion in a straight line indefinitely.		↗	Back and forth motion.
↻	**Rotation Motion** Motion in a circle.		↶	**Oscillating Motion** Oscillation is a back and forth motion about a pivot point

Cams

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

Cams

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

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

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

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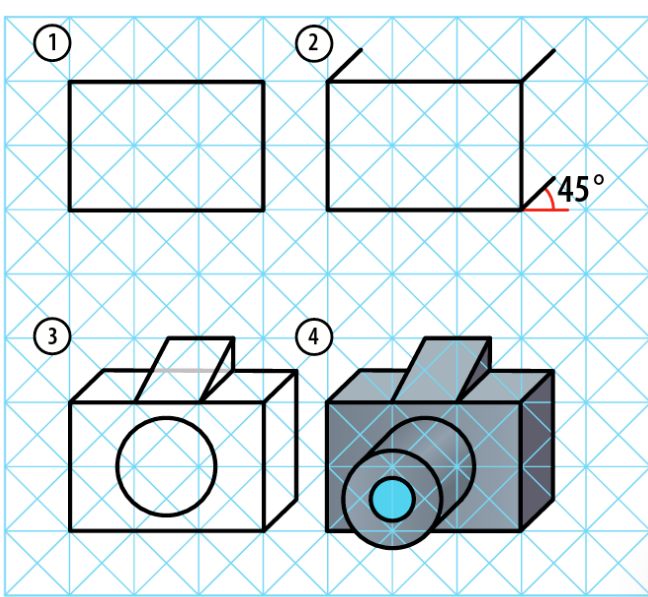
Followers

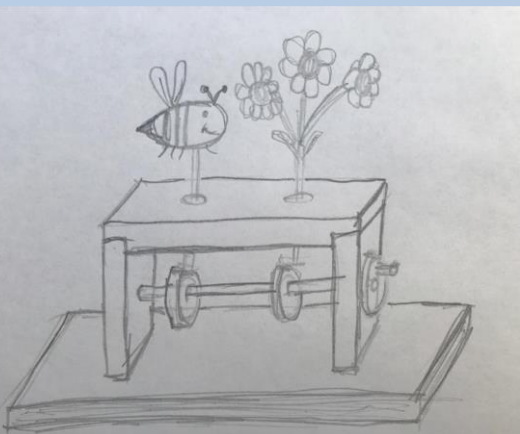| Roller	Knife edge	Flat
• Used when higher speeds are required, such as in engines • Rolling motion reduces friction so it will wear better • Has separate parts in the roller mechanism and contends with forces pushing them to the side	• Used when accuracy is required, such as in an embroidery machine,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

path of C

Oblique

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

1   Draw the front view in 2D.

2   From each corner, draw construction lines projecting out at 45 degrees.

3   On the construction lines, measure half the true length.
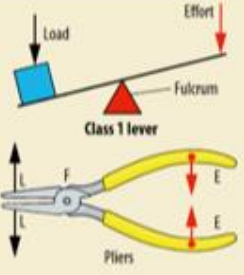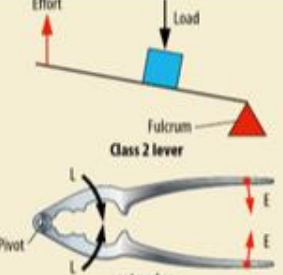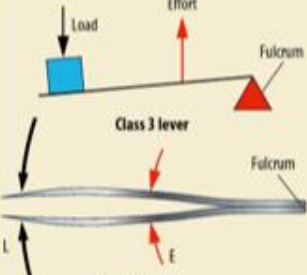
4   Draw the back of the product to complete the product.

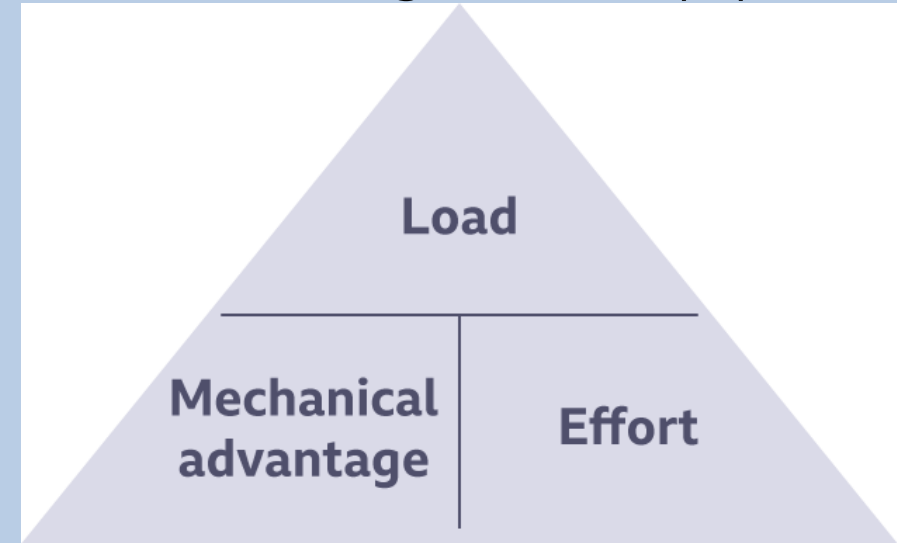| Specification Point to Include	Questions to Answer
Form	Why is the product shaped or styled as it is? What shape / style should it be?
Function	What does it do?
Client and user	How does it meet the needs? How is the product designed for the user?
Performance	How does it work? How does it do the job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

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

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

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

1	2	3
F	L	E