The Trafalgar School at Downton

Knowledge Organiser

Year 7: Terms 3 and 4

2024/2025

Contents

Name……House……

Being Trafalgar

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

To help yourself you should:

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

Using a Knowledge Organiser well

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

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

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

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

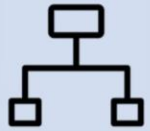
Why is a Knowledge Organiser important?
GCSE specifications require students to memorise more facts, equations, quotations and information than ever before and there are things you will learn right from the start of year 7 that you will need to know in year 11 when you sit your GCSE exams – the Knowledge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

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

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

The Trafalgar School AT DOWNTON

How to use a knowledge organiser – step by step guide

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

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

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

APE FOR REST: rhetorical methods

A	anecdote: telling your own story to support your point.
P	pronouns: use pronouns that directly address your reader/ audience – we, you, our, us.
E	emotive language: make them feel an emotion.
F	facts and opinions: include genuine information and your personal point of view.
O	
R	repetition: repeat a key phrase/word.
R	rhetorical questions don't require a response, but trigger internal responses for the reader e.g. empathy, desire to know more etc.
E	experts: use quotes from experts to back you up.
S	statistics: use percentages and other numbers in favour of your point.
T	triples: use powerful and effective words/phrases in threes.

Fortnightly Writing Challenge Year 7

Use fronted adverbials:

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

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

Use a two and then three word sentence:

It hurt. I was dying!

Snow fell. Flakes floated precariously.

Use anaphora:

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

Use epiphora (epistrophe)

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

Use a range of sentence structures:

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

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

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

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

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

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

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

Use a tricolon (tripartite list):

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

Snap! Crackle! Pop! **(Rice Krispies slogan)**

Use a conditional sentence:

When people smoke cigarettes, their health suffers.

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

Use paired adjectives to describe a noun:

Take a look at this bright red spider.

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

Use anadiplosis (yoked sentence):

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

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

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

Put your pen down. **(imperative)**

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

Pollution is killing us! **(exclamation)**

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

Therefore, Consequently, Hence, As a result,

Furthermore, In addition, Additionally, Moreover,

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

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

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

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

PUNCTUATION PIT STOP

Full Stop

Full stops are used to:

1) **mark the end of a sentence.**

Carefully, he kicked the ball into the goal.

2) show when a word has been abbreviated.

Saint Peter's Road is on the High Street.

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

COMMAS

Commas are used to separate:

1) items in a list .

Bert, Ernie and Elmo are my three pet rats.

2) dependent clauses and phrases.

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

Quotation Marks

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

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

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

Question Mark

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

What is your favourite food?

How do you feel today?

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

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

Exclamation Mark

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

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

They're also used for most interjections:

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

'Oh! When are you going?'

Semi-colon

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

It was winter; the snow was falling heavily.

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

Colon

Colons are used to:

1) **begin a list.**

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

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

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

Apostrophe

An apostrophe is used to show:

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

does not → doesn't I am →I'm

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

Dash –

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

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

Brackets

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

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

Tigers are carnivores (meat eaters)!

Ellipsis ...

Ellipsis is used to:

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

I don't know … I'm not sure.

2) build tension or show that something is unfinished.

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

Writing the text for a Leaflet/Guide

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

Manage your online reputation — subtitles

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

Privacy Matters

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.

effectively/fluently sequenced paragraphs

....

Remember:

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

bullet points

Text for a Speech/Talk

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

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

a clear address to an audience

...

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

rhetorical indicators that an audience is being addressed throughout

...

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

Thank you.

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

Writing Forms

Article

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

By Jim White — by-line

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

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

Sample Check — sub-headings

Today, before he even steps out on to the Centre Court for his Wimbledon semi-final against the huge-hitting Pole Jerzy Janowicz, Murray will [illegible] have been subject to several of these. He does [illegible] time he pops to the lavatory. The osmolality check is conducted by one of his staff, its purpose to gauge the percentage of water and minerals in his urine, to show whether his body is correctly hydrated. The fact is, if Murray wins [illegible] may be thanks to the bloke who inspects his wee.

introductory (overview) paragraph

fluently sequenced paragraphs

fluently sequenced paragraphs

Daily Diet

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

Writing to Review

clear, engaging title

Feeling Icy About Frozen?

effective introduction

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

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

use topic specific language

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

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

...

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

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

Writing a formal letter

writer's address

35 Hibiscus Crescent
Andover
Hants
SP10 3WE

221B Bakers Street
London
NW1 6XE

reader's address

date

20th February, 2020

Dear Sir or Madam

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

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

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

fluently sequenced paragraphs

fluently sequenced paragraphs

Furthermore, ...

Yours faithfully
Boris Johnson

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

Description of Place

spatial discourse markers

adjectives

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

Metaphor, simile, personification

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

sensory description

sensory description

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

sensory description

spatial discourse markers

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

adjectives

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

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

"Kuno!"

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

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

His image faded.

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

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

Journey Description

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

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

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

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

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

Fail to Plan
Plan to Fail!

Rising Action (build towards conflict):

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

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

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

- what events happen to solve the problem?

Exposition (Introduction):

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

Dénouement/Resolution (ending):

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

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

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

Yours Sincerely

P1

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

Form: Letter
Audience: Headmaster
Purpose: Argue change uniform

P2

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?

P3

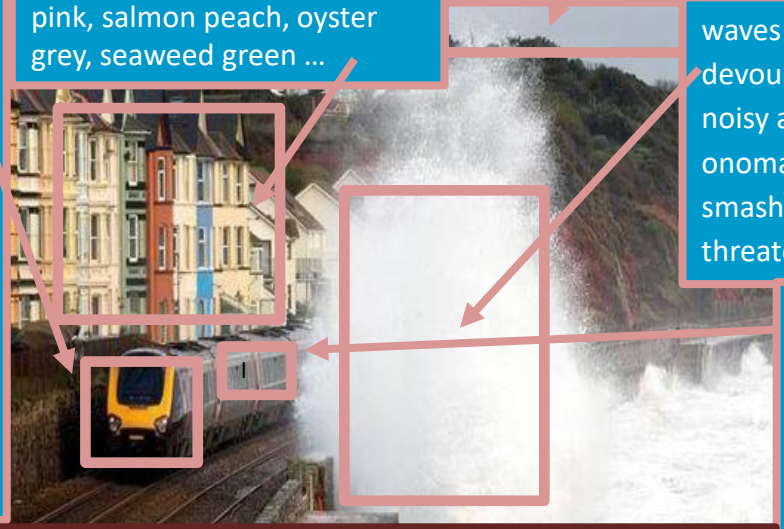
Counter reason: cost cheaper as not designer or from shops making huge profit
Argument reason: cost of blazers, trousers and skirts from school uni shop expensive as no competition, own clothes mix 'n' match so fewer outfits needed, wear weekends so more use,
Supporting example: emotive language: force 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

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

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

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



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

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

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

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

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

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

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

Fail to Plan
Plan to Fail!

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

Apostrophe To Show Ownership

1 normal singular noun

the man's idea ✓

add 's

2 normal plural noun

the girls' idea ✓

add '

3 singular noun ending s

Moses' idea ✓

add '

or...

Moses's idea ✓

add 's

4 plural noun not ending s

the children's idea ✓

add 's

Using Apostrophes (Showing Joint Ownership)

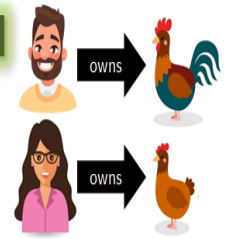
The Rules

Joint possession?
Make the last word in the series possessive.

Individual possession?
Make all parts possessive.

Examples

Janet and John's chickens



Janet's and John's chickens

YR 7 INTRODUCTION TO SHAKESPARE

WHY DO WE STUDY SHAKESPEARE?

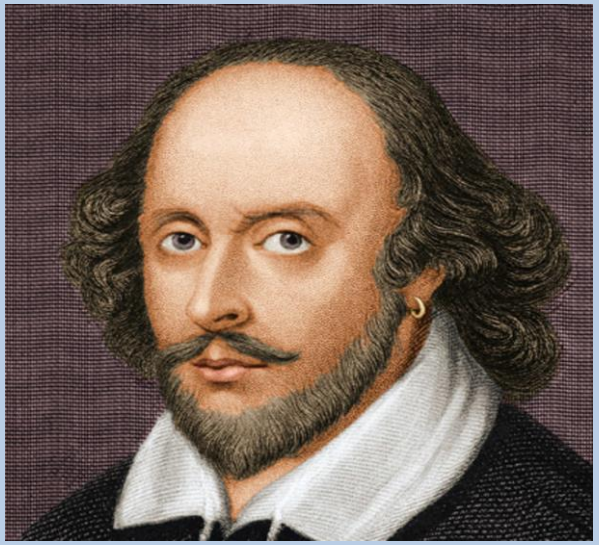
Shakespeare has had a huge influence over literature, the English language, and Western Culture so it is important to have an awareness and an understanding of his work. His writing is very skillful and covers a large number of genres (e.g. poems, plays, comedies, histories, and tragedies). In addition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

FACT FILE

Full name: William Shakespeare
Born: 1564 (baptised 26th April), Stratford-Upon-Avon
Died: 23rd April 1616, Stratford-Upon-Avon
Occupation: Poet, actor, playwright, theatre owner
Place of work: London
Wife: Anne Hathaway (married 1582)
Children: Susanna (1583-1649), Judith (1585-1662), and Hamnet (1585-1596).

Sadly, we don't know much about Shakespeare's life. There is no record about where he was or what he was doing between 1585 and 1591 (these are referred to as 'the lost years') but by 1592 he was working in London and he is thought to have divided his time between there and Stratford-Upon-Avon. His wife and children did not move to London with him but stayed at the family home in Stratford-Upon-Avon.

Shakespeare became hugely successful during his lifetime – his plays were often performed for the monarch and they drew enormous crowds to his theatre, The Globe. He wrote at least 38 plays, 154 sonnets and 2 long narrative poems.



TERMINOLOGY

Act – a play is divided into sections called Acts, based on the events of the plot.

Scene – Acts are divided into smaller sections called Scenes, based on which characters/settings are needed.

Character – the people who are represented in the play.

Protagonist – the central or main character in the play.

Antagonist – a character who opposes the protagonist an places obstacles in his/her way.

Soliloquy – a character thinks aloud or talks to himself, usually they are alone on stage but if other characters are present they cannot hear what is said.

Monologue – a long speech by one character which can be heard by other characters on stage.

Aside – a character makes a brief remark aloud which is unheard by other characters in the scene, this shows the audience that character's thoughts.

Stage directions – instructions by the writer about the setting or performance of the play, usually written in italics.

Foreshadowing – when the writer gives the audience a hint of what is to come later in the play.

Shakespeare's Theatre

Just like us, people living in Shakespeare's time wanted to be entertained. Remember that electricity had not yet been discovered so there were no T.V.s, computers or cinemas; live entertainment was the only option.

Popular Elizabethan entertainments included bear baiting and bull baiting where trained dogs were set upon a tethered bear or bull. Another common blood sport was cockerel fighting which involved two cockerels fighting each other in a special enclosure called a cockpit. Elizabethans loved to bet on the outcomes of these bloodthirsty activities.

Watching plays and performances at the theatre was another very popular pastime. From the 1570's the first purpose built theatres appeared in London. These were largely open air to make the most of the daylight. They were also huge holding 2,500 -3000 people.

Shakespeare's theatre company the Lord Chamberlain's Men built their own theatre , the Globe Theatre, in 1599, south of the river Thames in a district called Bankside. You can visit a recreation of this theatre in Bankside today. The Globe was shaped like a giant ring doughnut with covered seating around the sides for the well off and a large open air section in the centre where the poorer members of the audience stood (they were nicknamed the groundlings).

The theatre would have been very noisy and rowdy so plays needed to capture and hold the audience's attention. The stage jutted out into the audience and it was not uncommon for the actors to have to deal with heckling and things being thrown at them.

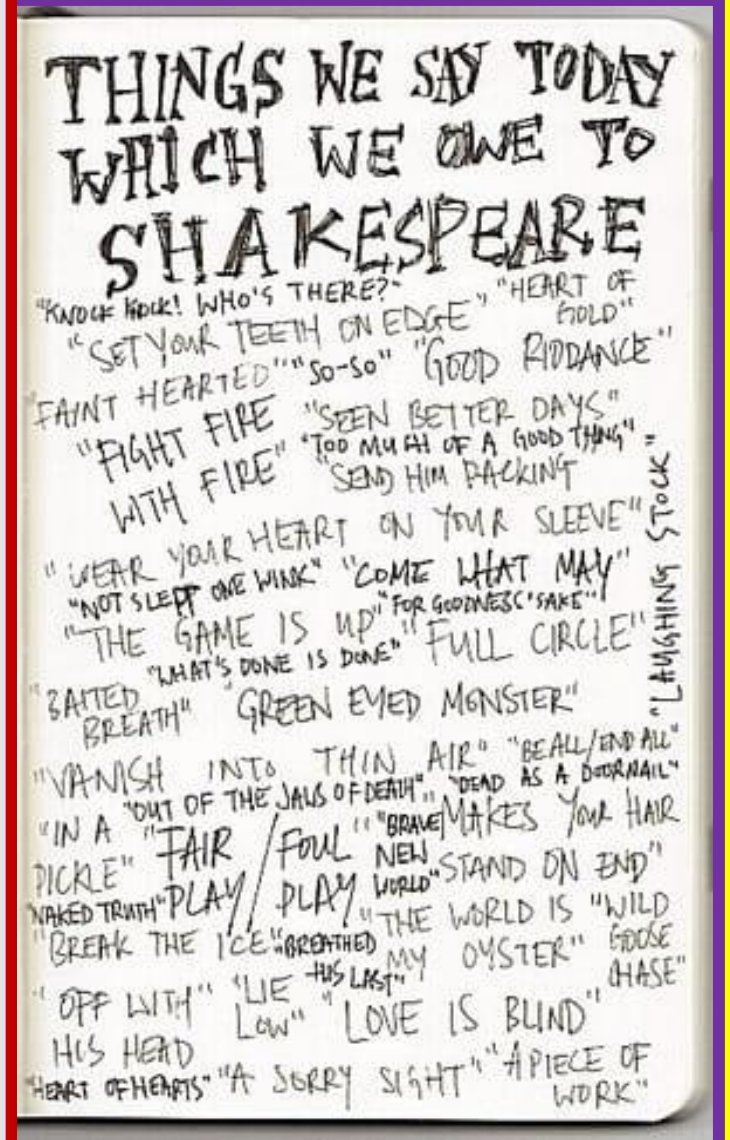
In the winter plays were sometimes performed at smaller, indoor venues which were more expensive and exclusive. Blackfriars theatre was often used by Shakespeare's company.

In addition to the public performances, Shakespeare's plays were also performed for both Queen Elizabeth I and James I at their palaces. Royal patronage was very important and it is further evidence of how popular Shakespeare's work was at the time.

Shakespeare's Language

Shakespeare invented or introduced 1,700 words to the English language – here are just a few of them: alligator, bedroom, critic, downstairs, eyeball, fashionable, gossip, hurry, lonely, nervy, zany.

He also invented many common phrases…



Shakespeare's plays are often divided into the following categories:

The Comedies

The comedies have common elements: they involve lovers and they almost always have a happy ending. Examples include: Twelfth Night, As You Like It, Much Ado About Nothing, The Merchant of Venice, and A Midsummer Night's Dream.

The Tragedies

All the tragedies have a hero (or protagonist) that must overcome external and internal obstacles. Often, the protagonist has a 'tragic flaw' that leads to his ultimate destruction. A good example is Macbeth, whose evil ambition for the throne overtakes him and causes his downfall. Other examples include: Romeo and Juliet, King Lear, Hamlet, and Othello.

The Histories

The history plays are based on real historical figures. Shakespeare received most of his information and plot ideas from one book, Holinshed's Chronicles of England, Scotland, and Ireland. The central theme of the history plays is the gain and loss of power, and, in particular, the theme of divine right. Shakespeare spends a lot of time discussing what makes a good, wise, and successful ruler in his history plays.
Examples include: Henry VI Parts 1, 2, and 3, Henry IV, Parts 1 and 2, Henry V and Richard III

The Romances

Sometimes Shakespeare's late comedies are grouped together as romances. These are Pericles, Cymbeline, The Winter's Tale, and The Tempest. These plays, at times, seem more like tragedies than comedies, but they have the standard 'happy ending'.

Historical context

Shakespeare lived in interesting times – it was the end of what is know as the **Renaissance** period (which means rebirth) when European interest in art, science and exploration was revived. **Religion** was also a hot topic throughout his life because tensions between Protestants and Catholics continued.

When Shakespeare was born **Queen Elizabeth I** was already on the throne and she remained in charge until her death in 1603. During this time **Sir Francis Drake** became the first explorer to circumnavigate the globe (sail all the way round the world), England defeated the **Spanish Armada**, the **potato** was introduced to Britain, and there were several outbreaks of the **plague**.

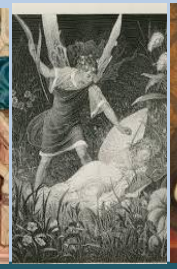
When **James I** became King he was already **King of Scotland** and he ordered the creation of the **Union Jack flag**. Early in James' reign **Guy Fawkes** and others were involved in the attempted assassination of the King through the **Gunpowder Plot**.

Interestingly, belief in the **supernatural** was common throughout Shakespeare's lifetime. People absolutely believed in ghosts, fairies, witches and potions.

Shakespeare's writing shows the influence of all these events and beliefs. Many of his plays would have seemed quite topical when they were written.









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

1591 or earlier
The Taming of the Shrew
The Two Gentlemen of Verona
Titus Andronicus

1592:
Henry VI: Part II
Henry VI: Part III
Henry VI: Part I
Richard III

1594:
The Comedy of Errors

1595:
Midsummer Night's Dream
Love's Labour Lost
Romeo and Juliet
Richard II

1596:
King John
Merchant of Venice

1597:
Henry IV: Part I
Henry IV: Part II

1598:
Much Ado about Nothing

1599:
Henry V
As You Like It
Julius Caesar

1600:
Hamlet

1601:
The Merry Wives of Windsor
Twelfth Night
Troilus and Cressida

1604:
Othello
Measure for Measure

1605:
All's well that Ends Well
King Lear
Timon of Athens

1606:
Macbeth
Antony and Cleopatra

1608:
Coriolanus
Pericles

1610:
Cymbeline

1611:
The Winter's Tale
The Tempest

1613:
Henry VIII

1614:
The Two Noble Kinsmen

Act and Scene – Clarifies where in the play this part of the script is from.

Scene location – Gives the reader the place the scene is set.

ACT I SCENE I *A desert place.*

[Thunder and lightning. Enter three Witches]

First Witch	When shall we three meet again	
	In thunder, lightning, or in rain?	
Second Witch	When the hurlyburly's done,	
	When the battle's lost and won.	
Third Witch	That will be ere the set of sun.	5
First Witch	Where the place?	
Second Witch	Upon the heath.	
Third Witch	There to meet with Macbeth.	
First Witch	I come, graymalkin!	
Second Witch	Paddock calls.	10
Third Witch	Anon!	
ALL	Fair is foul, and foul is fair:	
	Hover through the fog and filthy air.	

Stage directions – There are a range of stage directions (see page 9). The most common at the start of a scene are which characters should enter.

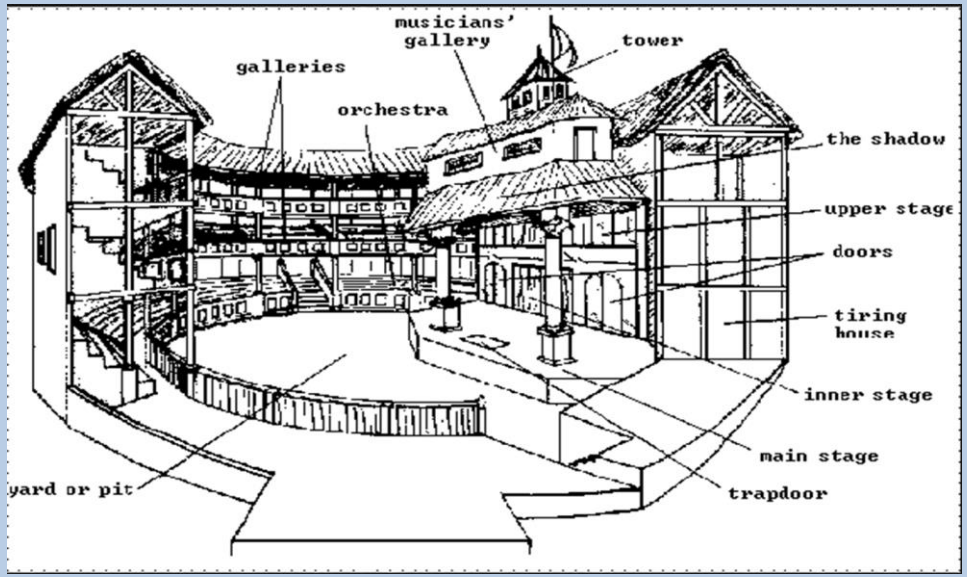
Lines of the play – The key part we analyse in a play. The words the actors speak on stage, sometimes with stage directions to the actor to instruct them exactly **how** to say the line.

Line number – Every line is given a line number to aid the actor/director/reader. So this line would be 1.1.10 – act 1, scene 1, line 10.

Character – This indicates who speaks each line, with ALL indicating all characters.

WHAT DOES A PLAY SCRIPT LOOK LIKE? HOW IS IT DIFFERENT TO TEXTS WE ARE USED TO?

SHAKESPEARE'S THEATRE…THE GLOBE



Public Speaking Unit – Knowledge Organiser

Possible Speech Topics

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

When thinking about your own topics, consider the following…

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

Success Criteria for Your Speech

Delivering your speech…

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

Writing & Planning your speech…

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

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

A

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

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

P

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

E

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

F

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

O

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

R

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

R

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

E

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

S

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

T

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

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

Public Speaking Unit – Knowledge Organiser

Structuring Your Speech

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

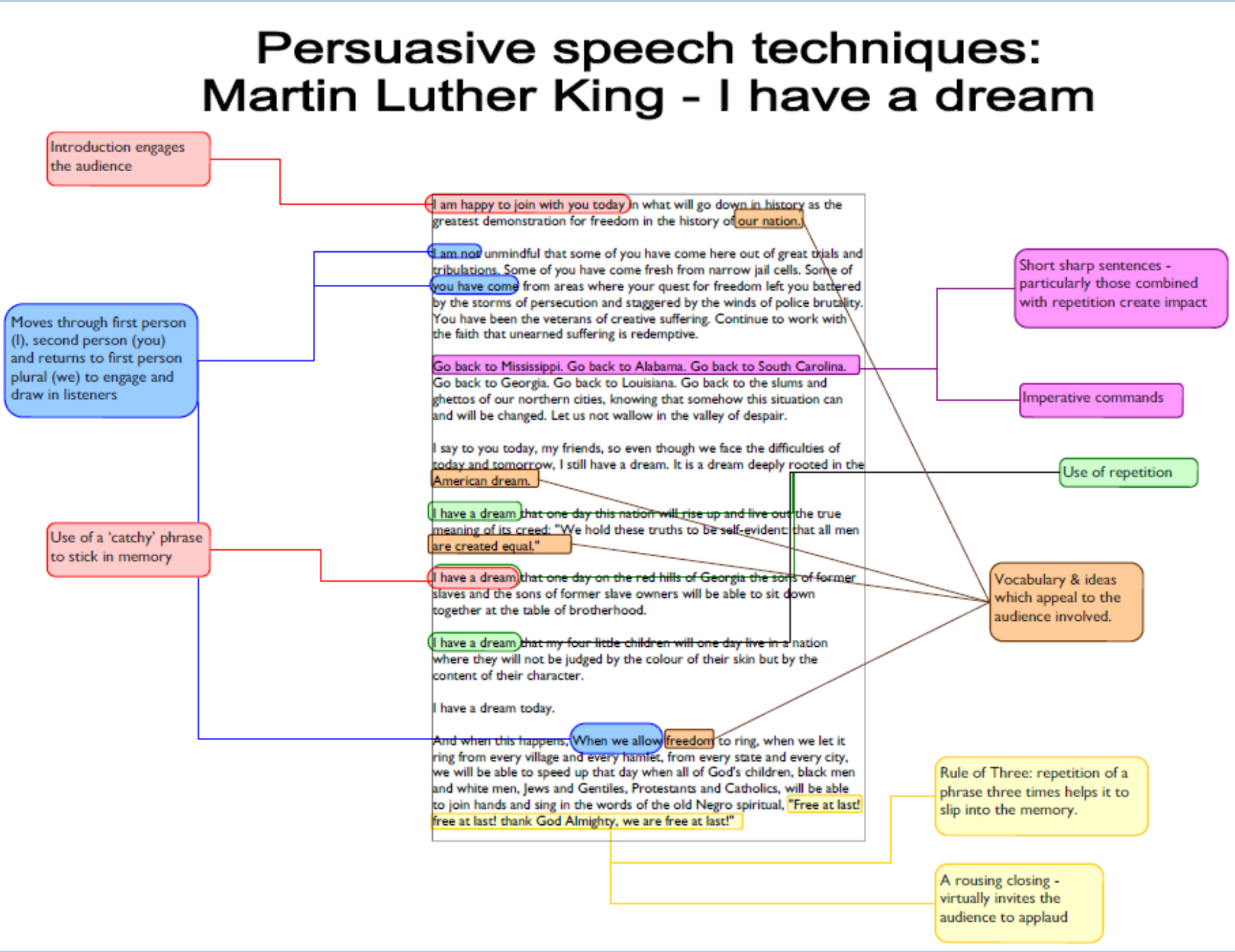
Say what your issue is and set out your argument.
I am here today to talk to you about why every person in our society should be a vegetarian. I know that not everyone will want to be a vegetarian, but I hope to explain why it would be better for society if we were.

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

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

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

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



Command Words in Maths questions

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

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

	Divisibility Test
2	Even
3	Digits sum to a multiple of 3
4	Last 2 digits are divisible by 4
5	Ends in 5 or 0
6	Divisible by 2 and 3
8	Can be halved 3 times
9	Digits sum to a multiple of 9

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

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

12 X 12 Multiplication Table

X	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10	11	12
2	0	2	4	6	8	10	12	14	16	18	20	22	24
3	0	3	6	9	12	15	18	21	24	27	30	33	36
4	0	4	8	12	16	20	24	28	32	36	40	44	48
5	0	5	10	15	20	25	30	35	40	45	50	55	60
6	0	6	12	18	24	30	36	42	48	54	60	66	72
7	0	7	14	21	28	35	42	49	56	63	70	77	84
8	0	8	16	24	32	40	48	56	64	72	80	88	96
9	0	9	18	27	36	45	54	63	72	81	90	99	108
10	0	10	20	30	40	50	60	70	80	90	100	110	120
11	0	11	22	33	44	55	66	77	88	99	110	121	132
12	0	12	24	36	48	60	72	84	96	108	120	132	144

Squares

$1^2 = 1 \times 1 = 1$	$5^2 = 5 \times 5 = 25$	$9^2 = 9 \times 9 = 81$
$2^2 = 2 \times 2 = 4$	$6^2 = 6 \times 6 = 36$	$10^2 = 10 \times 10 = 100$
$3^2 = 3 \times 3 = 9$	$7^2 = 7 \times 7 = 49$	$11^2 = 11 \times 11 = 121$
$4^2 = 4 \times 4 = 16$	$8^2 = 8 \times 8 = 64$	$12^2 = 12 \times 12 = 144$

Square Roots

$\sqrt{1} = \pm 1$	$\sqrt{25} = \pm 5$	$\sqrt{81} = \pm 9$
$\sqrt{4} = \pm 2$	$\sqrt{36} = \pm 6$	$\sqrt{100} = \pm 10$
$\sqrt{9} = \pm 3$	$\sqrt{49} = \pm 7$	$\sqrt{121} = \pm 11$
$\sqrt{16} = \pm 4$	$\sqrt{64} = \pm 8$	$\sqrt{144} = \pm 12$

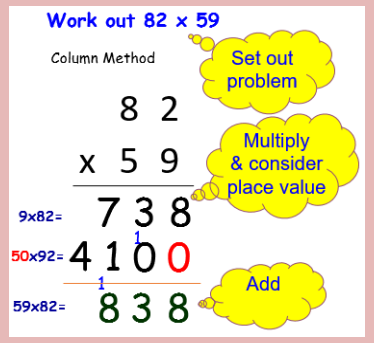
Websites to help you with understanding and revision

- SparxMaths.com
- CorbettMaths.com
- Trafalgar Maths Site
- Maths Genie
- Maths Bot

Year 7 Maths Term 3 and 4: written methods, directed number and the order of operations

Written Multiplication - Integers

- Consider place value and add a 0 on the second line
- Include your carries



Sparx Maths M187

Multiplying and Dividing Negatives

When multiplying or dividing two numbers, if the signs are the same the answer is positive
If the signs are different, then the answer is negative

+ x + = +	Examples:	+ ÷ + = +
− x − = +	1) −7 x 5 = -35	− ÷ − = +
+ x − = −	2) −3 x −7 = 21	+ ÷ − = −
− x + = −	3) 24 ÷ −8 = −3	− ÷ + = −
	4) −30 ÷ −5 = 6	

Sparx Maths M288

Short Division ("Bus Stop")

Division into an integer

2931 ÷ 3 = 977

0 9 7 7
3) 2 9 3 1

Division into an integer with remainder

1985 ÷ 4 = 496.25

1) Continue ÷ into decimals
2) Remainder as fraction

0 4 9 6.2 5
4) 1 9 8 5.1 0 2 0 0

$496\frac{1}{4}$

e.g."1 out of 4" is left over

Division into a decimal

27.6 ÷ 6 = 4.6

0 4 . 6
6) 2 7 . 6

Division into a decimal with "remainder"

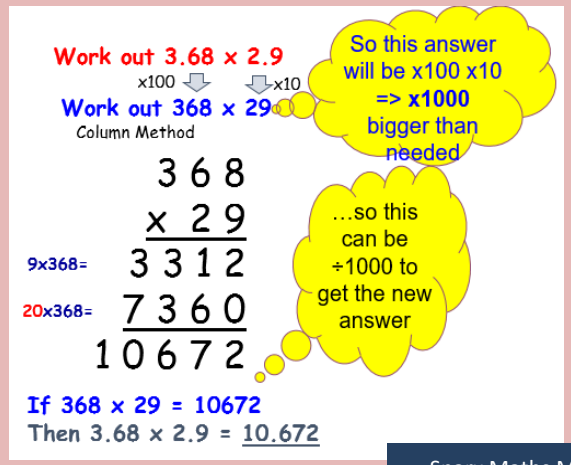
57.2 ÷ 8 = 7.15

0 7 . 1 5
8) 5 7 . 2 0

Sparx Maths M354

Written Multiplication - Decimals

- Multiply both decimals by a power of 10 to change them to integers
- Divide by the same power of 10 to obtain your final answer



Sparx Maths M803

Long Division

2829 ÷ 23 = 123

123
23) 2829
- 23
52
- 46
69
- 69
0

Show the subtraction problem that finds the "carry"

Rather than squeeze the "carry" under the bus-stop, bring down the next digit to the carry. The number you need to divide into now can be clearly seen.

Dividing by a decimal

- Change the number you are dividing by into an integer by multiplying by a power of 10.
- Multiply the dividend by the same power of 10.
- There is no need to alter you answer at the end.

Example: Calculate 6.4 ÷ 0.08	6.4 ÷ 0.08
Step 1: Multiply both numbers by 100	x100 ↓ x100 ↓
Step 2: Calculate the answer	= 640 ÷ 8 = 80

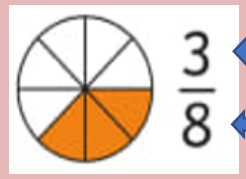
Sparx Maths M263

B	Do brackets first
I	Then indices or square roots
D M	Then division and multiplication, reading from left to right
A S	Then add and subtract, reading from left to right

3 – 5 + 2 = 0 (not -4)
Add and subtract have the same precedence, so you read from left to right.

Sparx Maths M521

Year 7 Maths Term 3 & 4 - Fractions



$\frac{3}{8}$

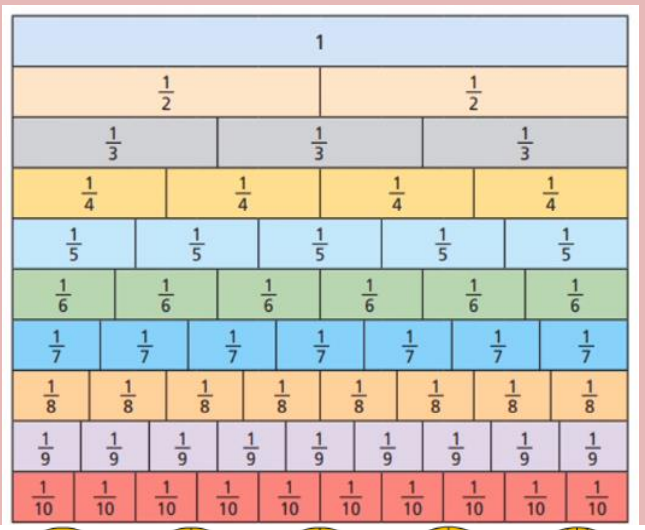
Numerator - how many equal parts are needed

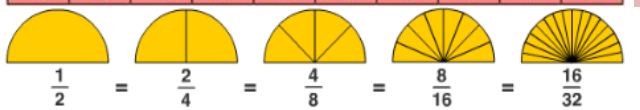
Denominator - how many equal parts are there in the whole

What do I need to be able to do?

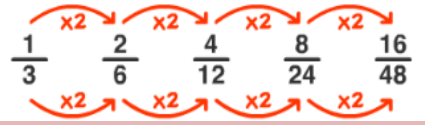
To determine and generate equivalent fractions
To write fractions in their simplest form
To convert between improper fractions and mixed numbers
To add and subtract fractions
To multiply and divide fractions
To find a fraction of an amount
To find a whole given a fractional amount

Equivalent Fractions





You can make equivalent fractions by multiplying or dividing the numerator and denominator by the same number.



Sparx Maths M410

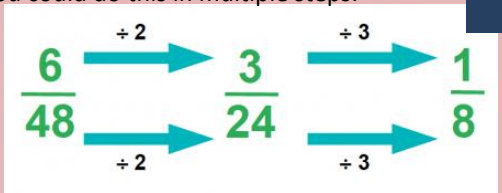
Simplifying Fractions

Simplifying a fraction means finding an equivalent fraction where the numbers are reduced as much as possible.

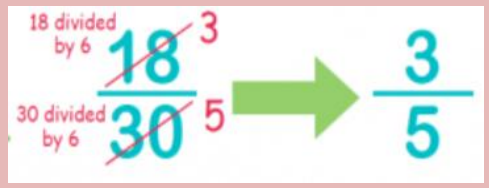
To simplify a fraction, we divide the numerator and denominator by the same number, a common factor.

You could do this in multiple steps:

Sparx Maths M671

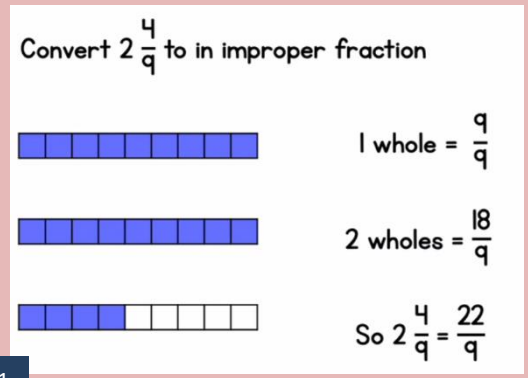


Or divide through straight away by the highest common factor:



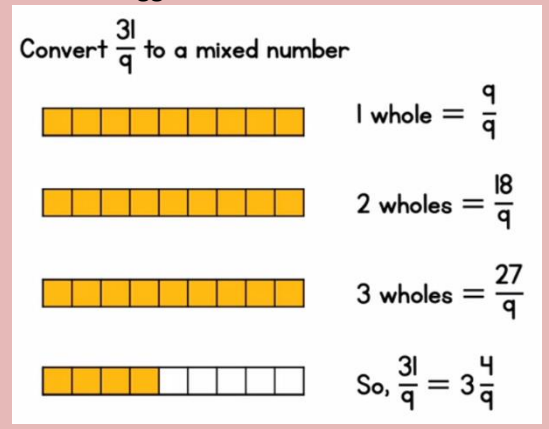
Mixed Numbers and Improper Fractions

An **improper fraction** is a 'top heavy' fraction where the numerator is bigger than the denominator



Sparx Maths M601

Or: Multiply the whole number by the denominator and add on the numerator.
2 x 9 + 4 = 22



Or: Ask yourself how many times the denominator fits into the numerator, with what remainder? 31 ÷ 9 = 3 with 4 remaining.

Keywords:

Numerator
Denominator
Whole
Equivalent
Simplify
Common Factor
Multiple
Convert
Mixed Number
Improper
Lowest Common Multiple
Reciprocal
Original

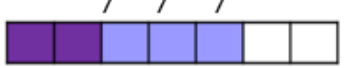
Sparx Maths M835, M931

Adding and Subtracting Fractions

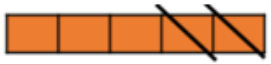
To add or subtract fractions you need to have common denominator.

You can only add or subtract the numerators when the denominators are the same.

$$\frac{2}{7}+\frac{3}{7}=\frac{5}{7}$$



$$\frac{5}{5}-\frac{2}{5}=\frac{3}{5}$$



$$\frac{7}{15}-\frac{2}{5}=\frac{7}{15}-\frac{6}{15}=\frac{1}{15}$$

(×3 above $\frac{2}{5}$, ×3 below $\frac{2}{5}$)

$$\frac{1}{4}+\frac{3}{10}=\frac{5}{20}+\frac{6}{20}$$

(×5 above $\frac{1}{4}$, ×5 below $\frac{1}{4}$, ×2 above $\frac{3}{10}$, ×2 below $\frac{3}{10}$)

When the denominators are different, find the lowest common multiple of the two numbers and re-write the fraction using this as the denominator. What ever you do to the denominator, you do to the numerator, to ensure the fractions are equivalent to the original.

Multiplying Fractions

To multiply fractions, you simply multiply the numerators, multiply the denominators and simplify if needed.

$$\frac{1}{4}\times\frac{2}{3}=\frac{1\times 2}{4\times 3}=\frac{2}{12}=\text{reduces to }\frac{1}{6}$$

$$1\frac{3}{4}\times 2\frac{1}{2}=?$$

$$\frac{7}{4}\times\frac{5}{2}=\frac{35}{8}=4\frac{3}{8}$$

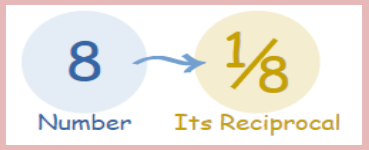
1x4 + 3 = 7

2x2 + 1 = 5

Sparx Maths M157, M197

Dividing Fractions

Instead of dividing by a fraction, we multiply by the reciprocal. The product of a number and reciprocal is 1. So to get the reciprocal of a number, we divide 1 by the number. It is like 'flipping' the numerator and denominator.



To divide fractions:

1) Keep the first fraction the same.
2) Take the reciprocal of the second fraction.
3) Change the division sign to a multiplication sign and proceed to multiply the fractions.

$$\frac{2}{5}\div\frac{2}{3}=\frac{2}{5}\times\frac{3}{2}=\frac{2\times 3}{5\times 2}=\frac{6}{10}=\frac{3}{5}$$

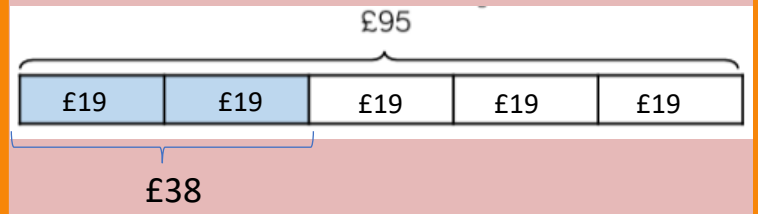
take the reciprocal of the divisor

$$\frac{4}{7}\div 2=\frac{4}{7}\times\frac{1}{2}=\frac{4\times 1}{7\times 2}=\frac{4}{14}=\frac{2}{7}$$

Sparx Maths M110, M265

Fraction of an Amount

To work out $\frac{2}{5}$ of £95, you could use a bar model to help:



Or, without a diagram:

$\frac{1}{5}$ of £95 = £95 ÷ 5 = £19

So $\frac{2}{5}$ of £95 = 2 x £19 = £38

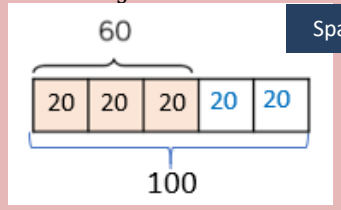
Sparx Maths M695, M476

Finding a whole

If $\frac{3}{5}$ of a number is 60, what is the number?

Well, if $\frac{3}{5}$ is 60, then $\frac{1}{5}$ is 60 ÷ 3 = 20

Sparx Maths U881



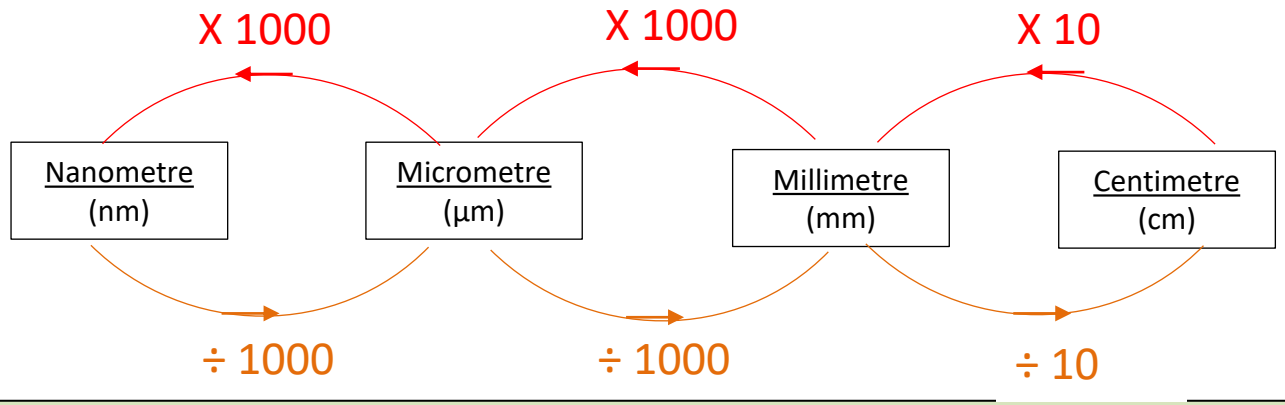
So the $\frac{5}{5}$ (a whole, which is the original number) must be 5 x 20 = 100

Science: Useful Information

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

Prefix	Number	Standard Form	e.g. metres
Giga	1,000,000,000	$1x10^{9}$	Gm
Mega	1,000,000	$1x10^{6}$	Mm
kilo	1,000	$1x10^{3}$	km
----------	1	1	m
milli	0.001	$1x10^{-3}$	mm
micro	0.000001	$1x10^{-6}$	µm
nano	0.000000001	$1x10^{-9}$	nm

Converting units of measure:



Variables:

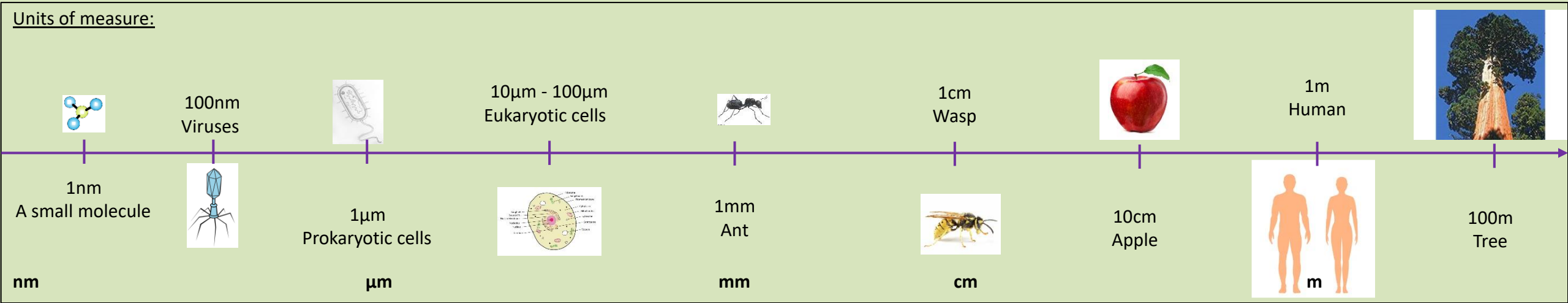
Independent: the variable that is being changed during the experiment

Dependent: the variable being tested or measured during the experiment

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

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

Units of measure:



The Periodic Table of Elements

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

Key

relative atomic mass
atomic symbol
name
atomic (proton) number

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

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

KS3 Biology: Bioenergetics

- Green plants and algae do not eat food to get their energy, instead they make their own glucose (food) by a process called photosynthesis.
- Photosynthesis takes place inside chloroplasts, found within certain plant cells.
- Photosynthesis needs light energy

carbon dioxide + water → glucose + oxygen

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

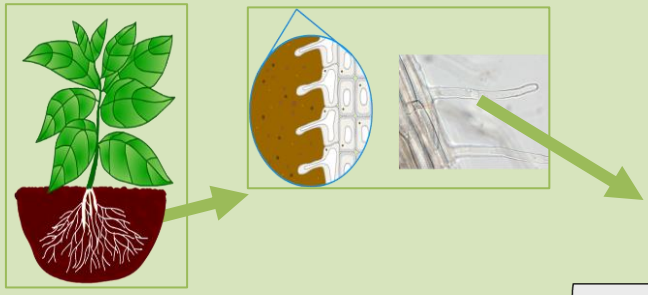
- Carbon dioxide gas enters through the **stomata** on the underside of the leaf. These are like pores in our skin.
- Water is absorbed by the **root hair cells** and is transported to the leaf by the **xylem vessels** (like veins)
- Oxygen is released through the stomata on the underside of the leaf; glucose is transported around the plant in the **phloem vessels** (also like veins)

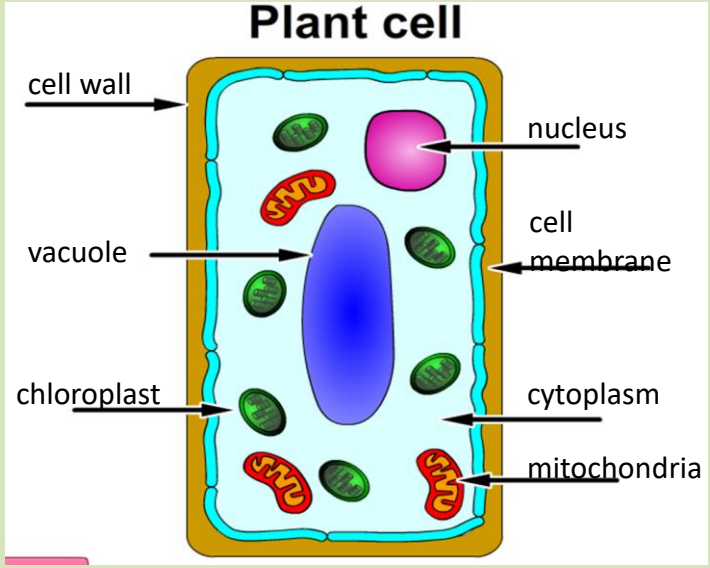
Root Function and Structure

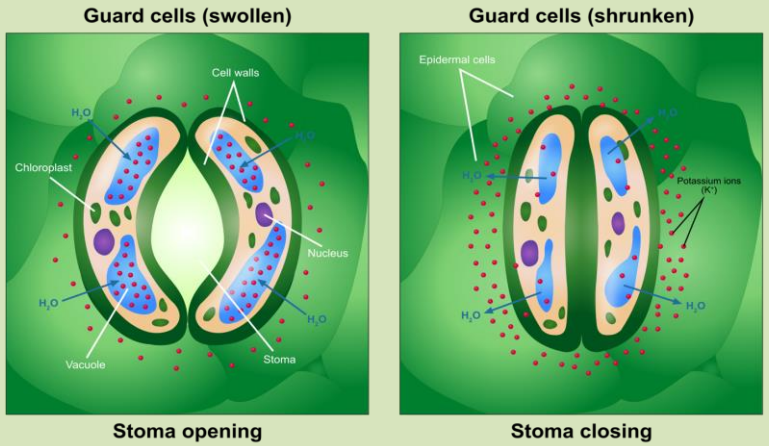
- Absorb water
- Absorb minerals
- Anchorage (hold the plant to the ground)

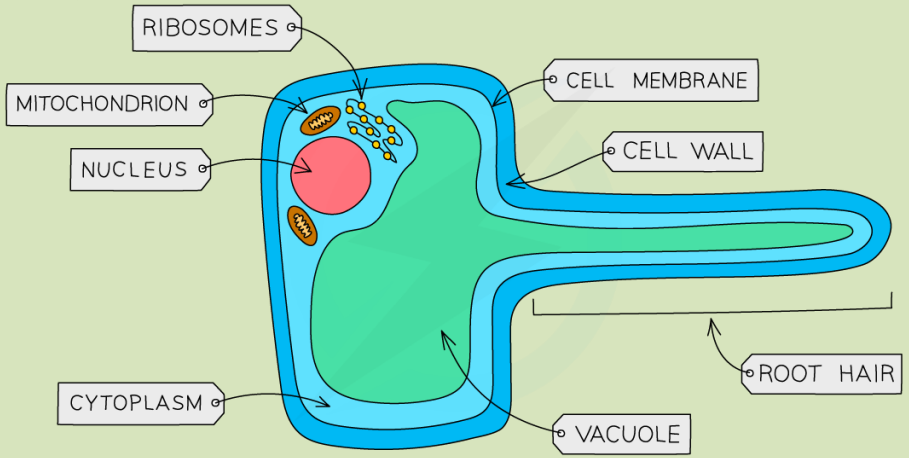
- The roots are covered with millions of tiny **root hair cells.**
- These have a **very large surface area**, allowing the roots to absorb large amounts of water and minerals.

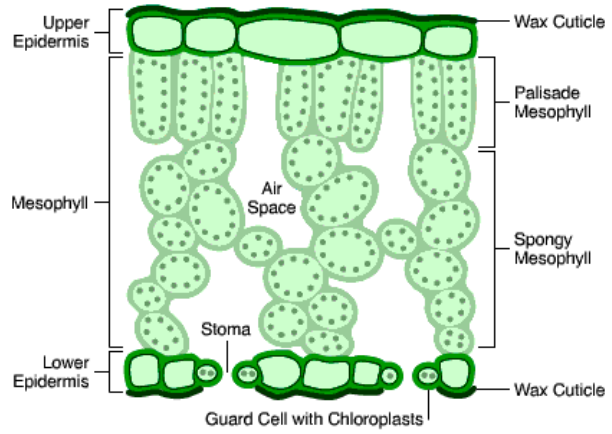
Keyword	Definition
Chlorophyll	Green pigment in chloroplasts of plant cells. It enables photosynthesis to take place
Chloroplasts	Organelle found in plant cells, the site of photosynthesis
Lower Epidermis	Contains stomata to regulate the loss of water vapour (transpiration)
Photosynthesis	Process carried out where plants make their own glucose
Producer	Living organisms that make their own food (glucose)
Stomata	Hole on the leaf that are surrounded by a pair of guard cells that control the opening/closing of the hole











How are leaves adapted for photosynthesis?

- They are **green** because they contain lots of chlorophyll to absorb sunlight.
- They have a **large surface area** to maximise the amount of sunlight they can absorb.
- They are **thin**, allowing easy diffusion of gases into and out of the leaf.
- They have **veins** (xylem and phloem) to allow the transport of water, mineral ions and glucose.

Bioaccumulation can occur if organisms low in the food chain get poisoned and when they get eaten that poison is taken into the next organism. The poison can build up through the organisms in the chain.

- Changes in the number of one organism in an area can affect the other organisms.
- The number of plants in an area can be affected by the amount or rain, sunlight, minerals and space available to grow.
- The number of animals can be affected by the availability of food habitats, mates, water and disease.

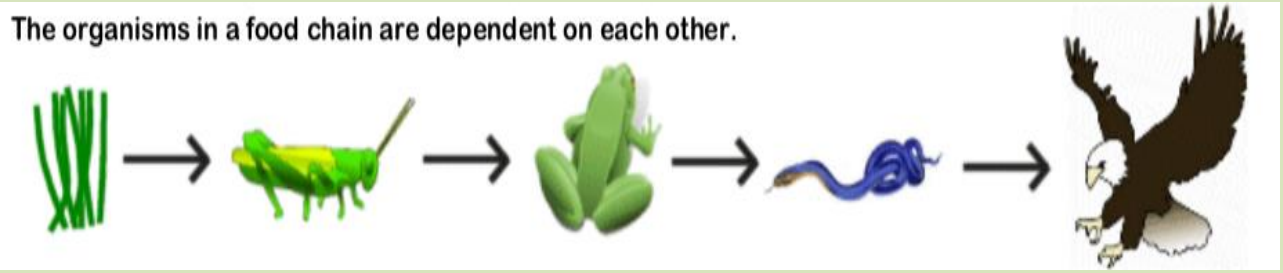
Leaf Function and Structure

- Absorb sunlight
- Where photosynthesis takes place
- To store glucose as starch
- To absorb carbon dioxide into the
- plant and let oxygen out.

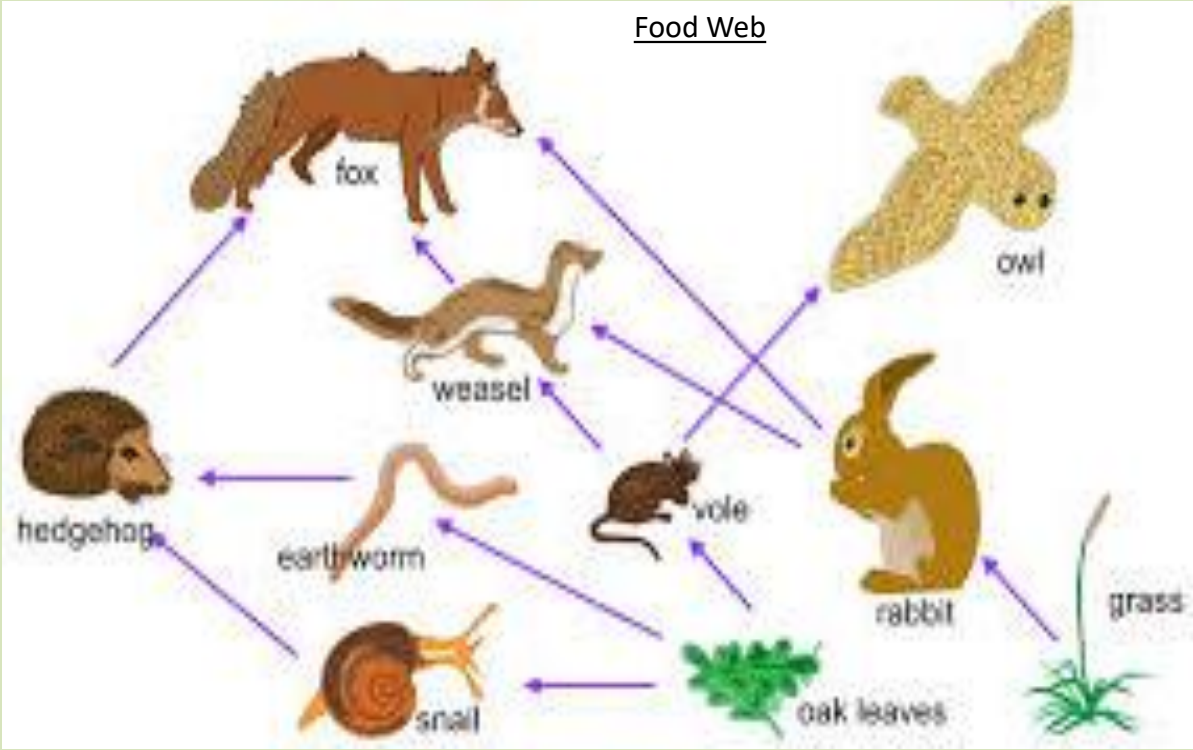
→ Arrow in the food chain means 'eaten by' and 'energy is transferred to'

Producer – makes own glucose
Carnivore – eats meat
Herbivore – eats plants
Omnivore – eats plants and meat

Primary consumer – eats the plants
Secondary consumer – eats primary
Tertiary consumer – eats secondary
Apex predator – nothing eats it



Food Web



KS3 Physics: Current, electricity and magnetism

Key word	Definition
Potential difference (Voltage)	A measure of the energy given to the charge carriers in a circuit
Current	The movement of electrical charges (such as electrons moving through a wire)
Resistance	The opposition in an electrical component (such as a fuse or wire to the movement of electrical charge through it
magnet	A metal that attracts iron, cobalt and nickel
Electromagnet	A metal core made into a magnet by the passage of electric current through a coil surrounding it
Solenoid	Cylindrical coil of wire acting as a magnet when carrying electric current
Static electricity	An imbalance of electric charges within or on the surface of a material. The charge remains until it is able to move away by means of an electric current

Introduction to circuits

Circuit Symbols

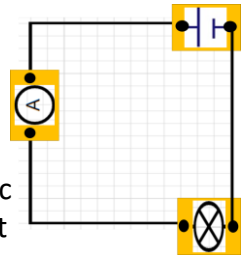
	Name
	Bulb
	Cell
	Battery
	Wire
M	Motor
	Switch
	Buzzer
V	Voltmeter
A	Ammeter

When looking at and drawing circuits we use symbols to represent common components that are used.

When talking about circuits we refer to three main factors. Current, potential difference (voltage) and resistance

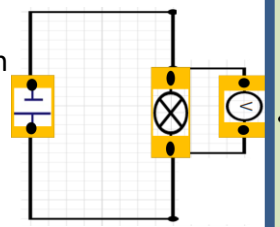
Electric Current — Amps

Is measured with a ammeter which can be used in series around the circuit. And is a measure of the amount of electric charge flowing through the circuit every second



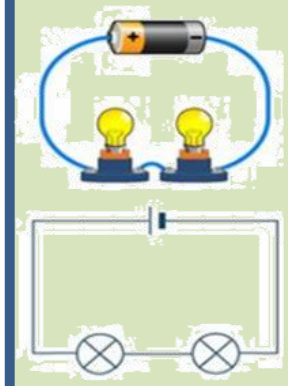
Potential Difference — Volts

Is measured with a voltmeter . Potential difference is how much energy each charge has gained or lost across a component. The voltmeter must be used in parallel to the circuit



Series and parallel circuits

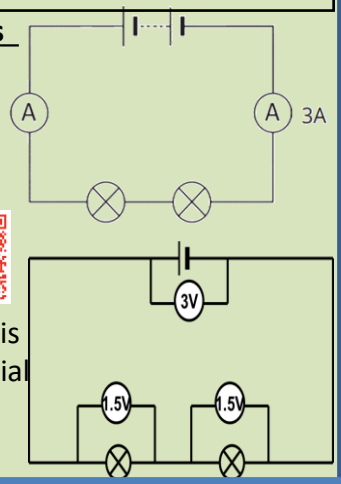
Series circuits



In a series circuit, the components are connected end to end in a loop as shown in the diagram. If one bulb breaks, none of the bulbs will be lit as the circuit is no longer complete.

Electric Current in series circuits

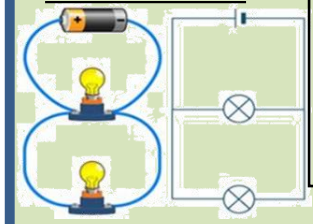
The current is the same everywhere in a series circuit. It doesn't matter where you put the ammeter, it will always show the same reading.



Potential difference in series circuits

In a series circuit, the voltage supplied by the battery is shared by the components. So, the sum of the potential difference across the components equals the battery voltage.

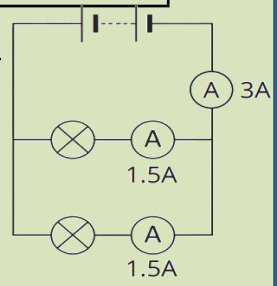
Parallel circuits

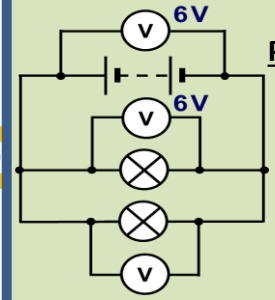


In a parallel circuit, the components are connected on separate branches. This gives the current several different paths to flow down. If one bulb stops working, the other bulbs will remain lit as the circuit is still complete

Electric Current in parallel circuits

In a parallel circuit, the current divides at the point where the circuit branches and then recombines to complete the circuit.



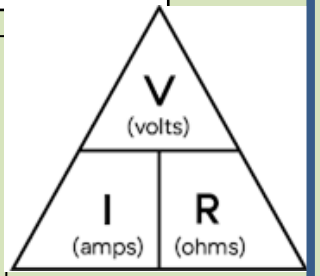


Potential difference in parallel circuits

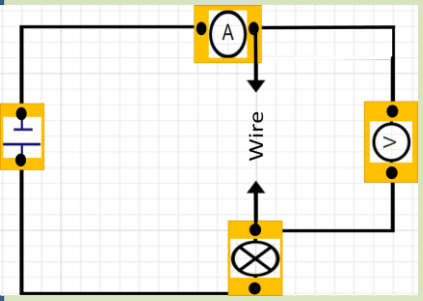
In a parallel circuit, the potential difference across each bulb is the same as the potential difference across the battery. This means that all the bulbs have the same brightness, and they are brighter than the same number of bulbs in a series circuit.

Resistance

Resistance is a measure of how hard it is for charges (electrons) to move in an electrical circuit.
Resistance is measured in ohms (Ω).
If there is high resistance there will be low current and low resistance will have a high Current.



You can use an ohmmeter to measure resistance **but** it can be calculated from the current and potential difference



You can test the resistance of different materials with this test circuit

Factors that can affect the resistance through a wire include:
- Temperature
- Thickness of wire
- Length of wire
- Material of wire

Conductor

low resistance

Insulator

High resistance

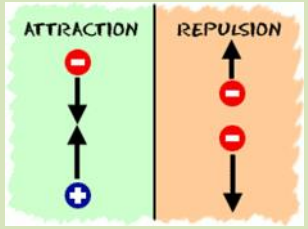
As the width of the wire increases, resistance decreases. This is because there is more space for the electrons to flow.

As the length of the wire increases, resistance increases because the electrons collide with more metal ions as they flow through the wire.

Static Electricity

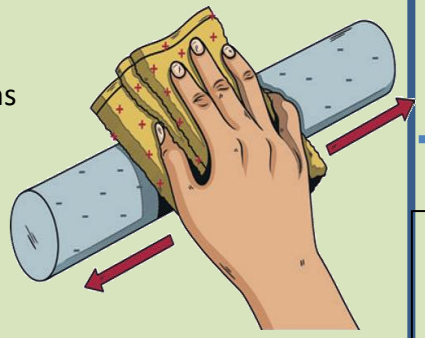
Static charge can build up when two insulating materials are rubbed together. Friction between the materials causes electrons to be transferred from one material to the other.

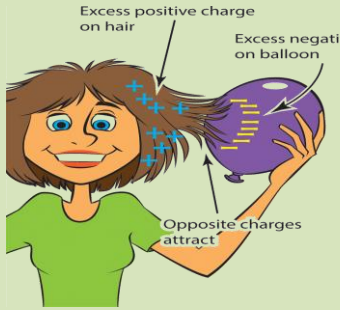
Electrons are negatively charged, so objects that lose electrons become positively charged overall, while objects that gain electrons become negatively charged overall.



If objects with different charges are near each other they will attract and if they are the same they will repel.

When a polythene strip is rubbed with a cloth, electrons move from the cloth to the strip. The strip becomes negatively charged and the cloth becomes positively charged.

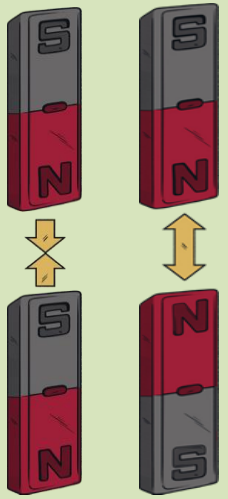




When you rub a balloon against your hair, electrons are transferred from your hair to the balloon. The balloon and your hair have opposite charges so your hair is attracted to the balloon, making it stand on end.

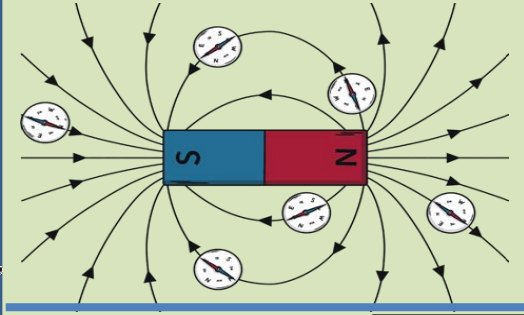
Magnetism

Magnetism is a non-contact force. That attracts or repels the 3 magnetic metals, these metals are Iron (Fe), cobalt (Co) and nickel (Ni). Steel is also magnetic because it contains iron. Magnets have a north and a south pole.



Like poles repel. This means that the two poles push each other away.

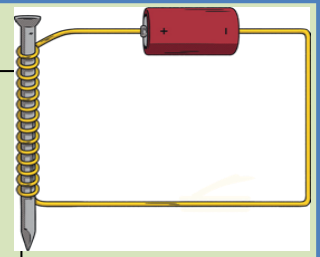
Opposite poles attract. This means that the magnets pull the poles towards each other



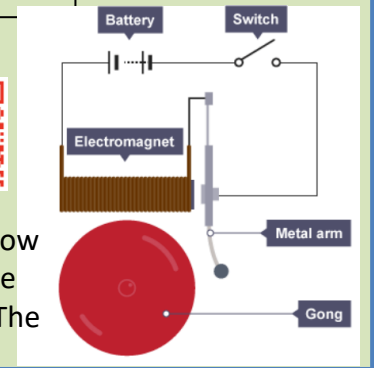
All magnets exert a magnetic field- this is the area where the magnet has an influence on currents and other magnets. It can be shown by placing compasses around the magnet and plotting where it points

Electromagnets

We can pass an electrical current through a wire, this creates a weak magnetic field. If we combine this with a metal core then we have a stronger field- we call this combination an electromagnet. They are useful because they have the ability to be turned "on and off"



Electromagnets can be made even stronger by:
- adding more coils
- increasing the current or voltage
- winding the coils closer together



Uses of electromagnets

There are many uses for electromagnets such as scrap metal sorters, speakers and electric bells. An example of how a bell uses an electromagnet is when the electromagnet is turned on it attracts the springy metal arm towards the bell. Here is hits the bell and makes a sound. This movement breaks the circuit and turns off the electromagnet. The arm moves away from the bell as it is not being attracted by the electromagnet. This cycle then repeats itself.

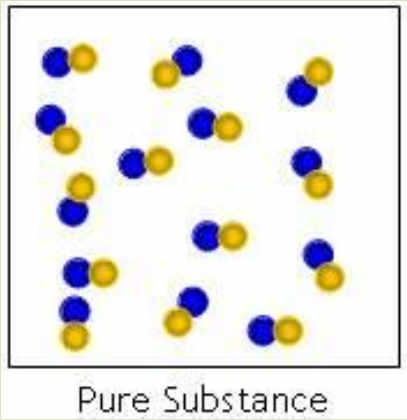
KS3 Chemistry:
Pure and Impure Substances

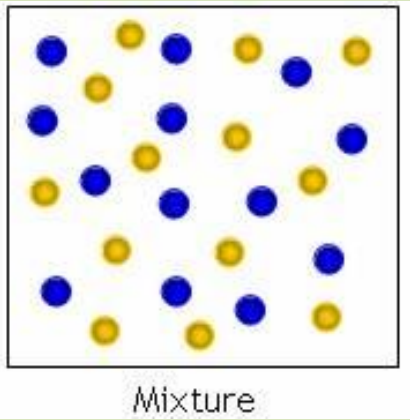
Term	Definition
Chromatography	Method used to separate the substances in a mixture which often involves coloured substances eg inks, food dyes
Compound	Substance made of atoms of at least two different elements chemically joined together.
Diffusion	The passive movement of particles from an area of high concentration to an area of low concentration.
Distillation	A way of separating out a liquid from a mixture. You heat the mixture until the bit you want evaporates, then cool the vapour to turn it back into a liquid.
Evaporation	A liquid changes into a gas, also a way of separating a solid from a liquid.
Filtering	Method used to separate an insoluble solid from a liquid.
Insoluble	Substance does not dissolve in a solvent
Mixture	Substance made from two or more elements or compounds that are not chemically bonded together.
Soluble	Substance that does dissolve in a solvent.
Solute	A substance dissolved in a solvent to make a solution.
Solution	A mixture made up of one substance dissolved in another.
Solvent	A liquid in which another substance can be dissolved.

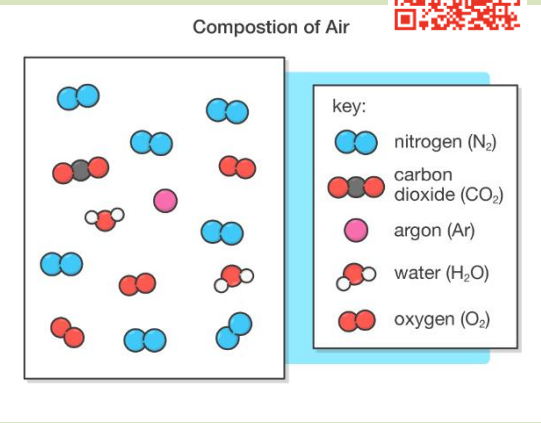
Mixtures and pure substances

A pure substance contains only one type of element or one type of compound. e.g. pure water is made of H_2O molecules only and cannot be separated into H and O atoms without a chemical reaction.

A mixture contains two or more different substances, these substances are not chemically combined. This allows mixtures to be separated using physical methods.
Seawater and air are good examples of mixtures.

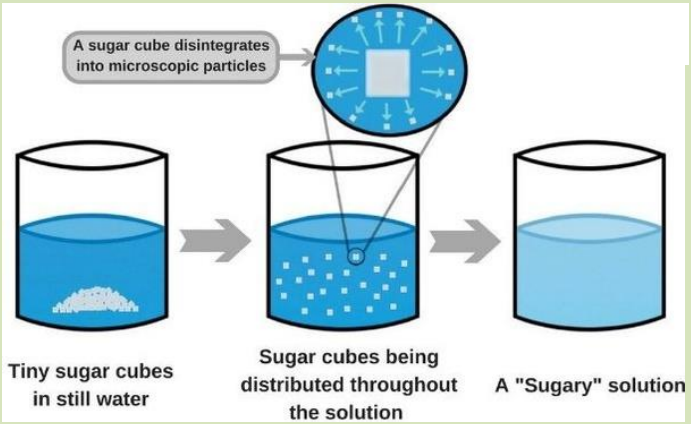






Dissolving

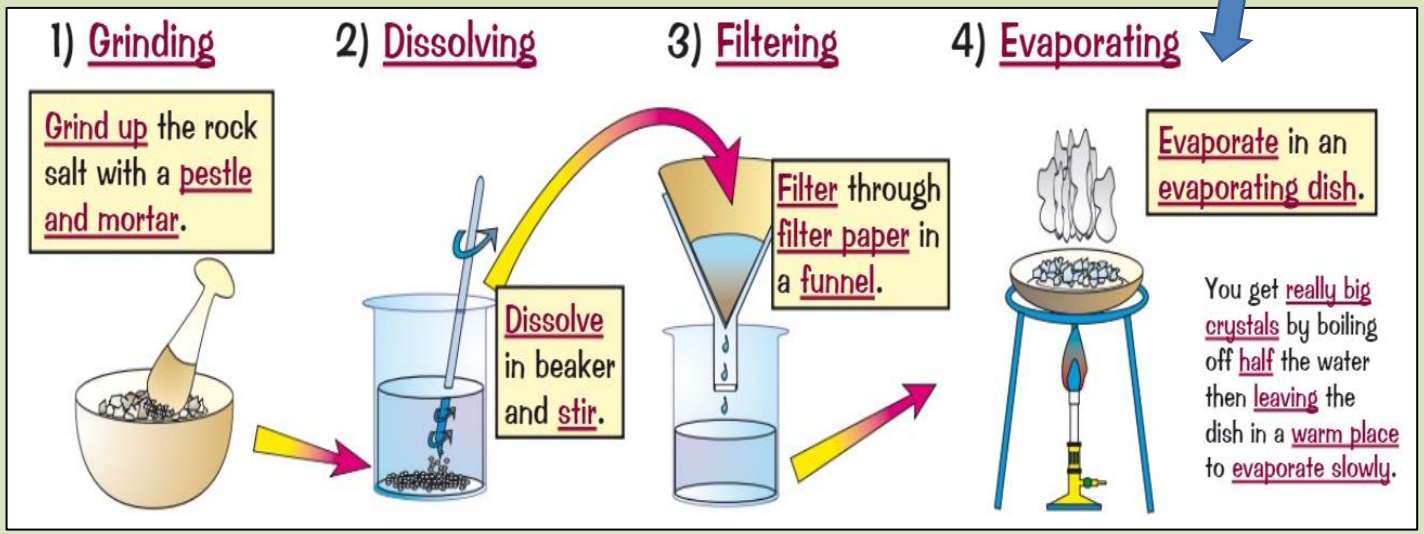
Dissolving is one way to make a mixture. For example, when salt is stirred into water, the salt dissolves in the water to make salt solution.
In a solution: the substance that dissolves is called the solute and the substance that the solute dissolves in is called the solvent
In salt solution, salt is the solute and water is the solvent. The particles of solute and solvent are completely mixed together.

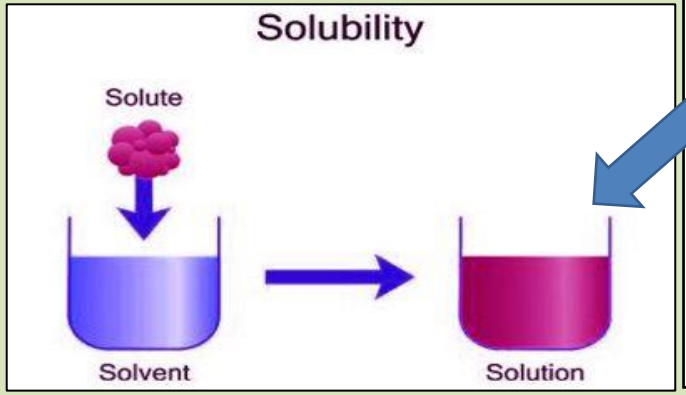


Mixtures can be separated using physical methods:

1. Filtration
2. Evaporation
3. Chromatography
4. Distillation

How to make crystals from rock salt



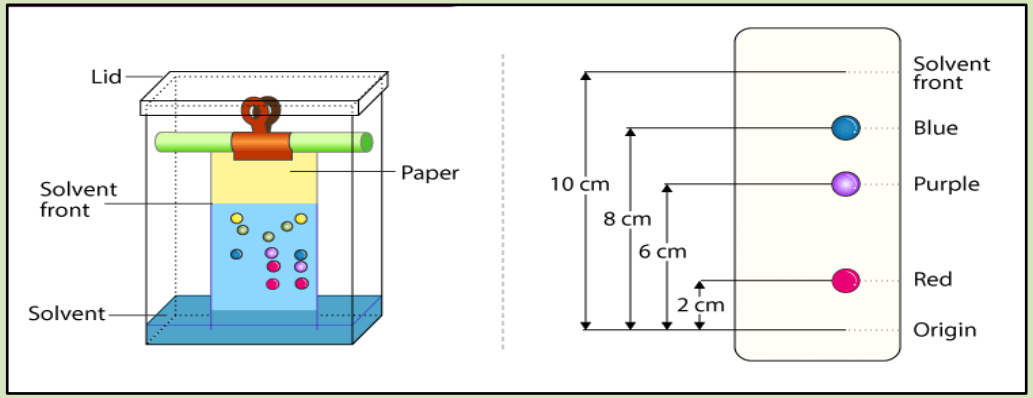


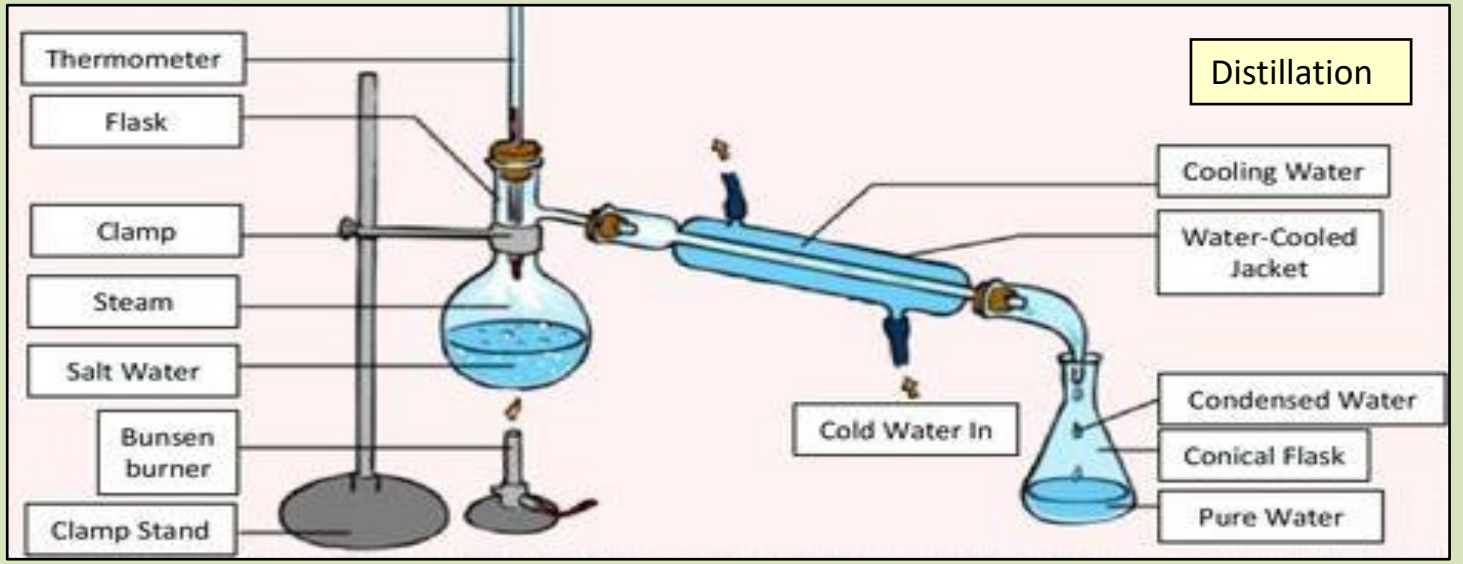
Solubility increases with temperature:

- At higher temperatures more solute will dissolve in the solvent because particles move faster.
- Some solutes will not dissolve in certain solvents
- When a solid is dissolved in a solvent a solution is made

Chromatography is used to separate mixtures and to help identify substances

If two coloured dots move the same distance up the chromatogram (paper) they contain the same chemical.

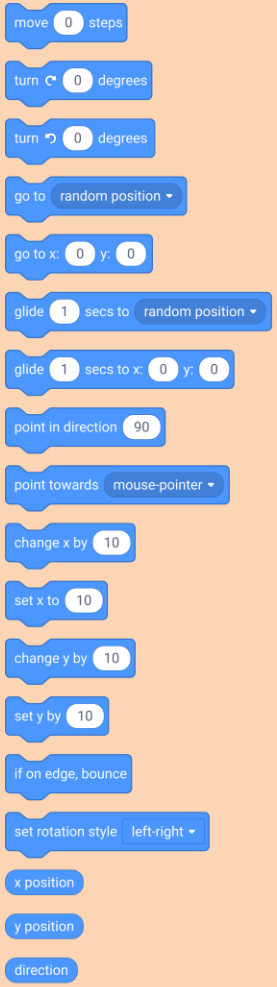




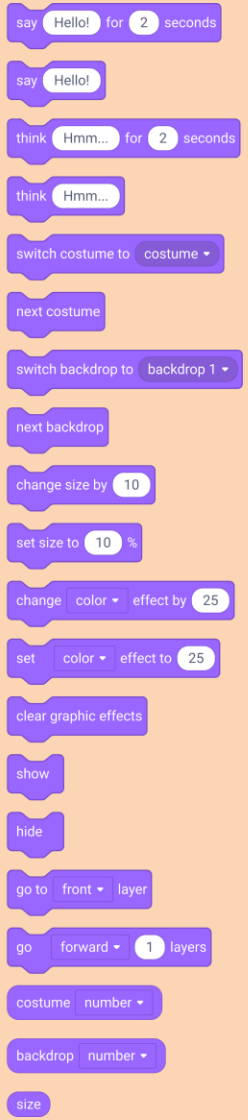
3. PROGRAMMING IN SCRATCH

Year 7 Computer Science – Spring Term

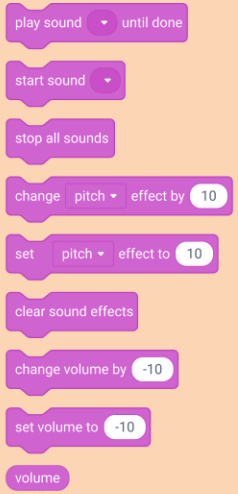
Motion



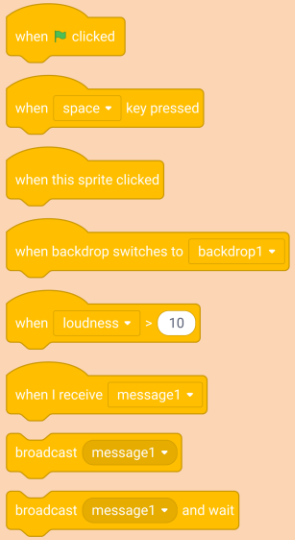
Looks



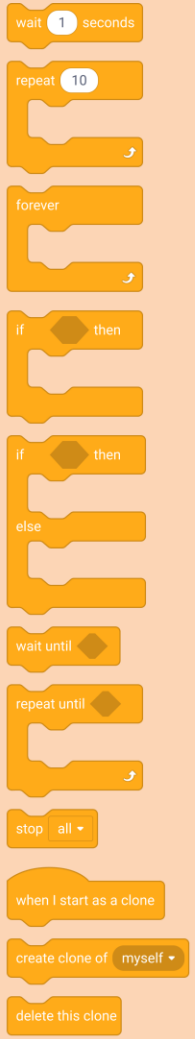
Sound



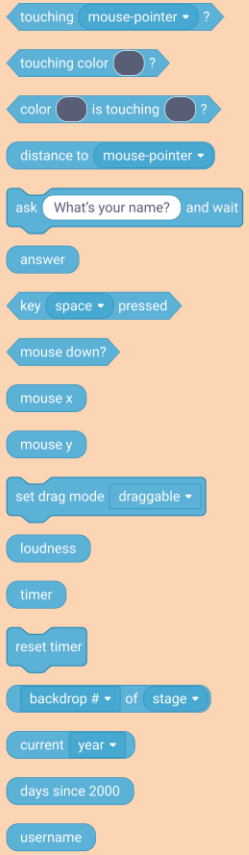
Events



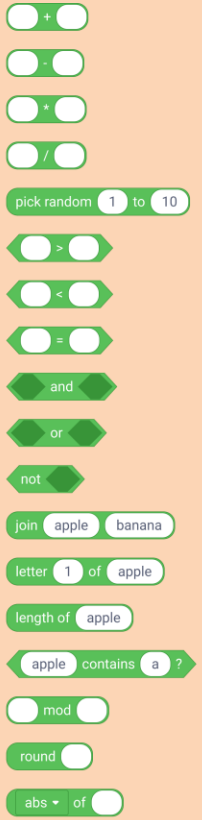
Control



Sensing



Operators



Variables

My Blocks

This page lists all of the blocks available to you as a Scratch Programmer. They have been arranged into categories including:

- Motion
- Looks
- Sound
- Events
- Control
- Sensing
- Operators
- Variables and
- My Blocks

https://scratch.mit.edu/

Scratch is the world's largest coding community for children and a coding language with a simple visual interface that allows young people to create digital stories, games, and animations.

Scratch promotes computational thinking and problem solving skills; creative teaching and learning; self-expression and collaboration; and equity in computing.

4. USING APPLICATIONS

Year 7 Computer Science – Spring Term

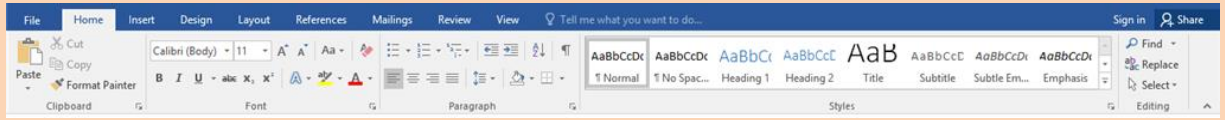
Microsoft Word 2016

Word processors are examples of application software. They are designed to be used for authoring text and feature standard tools which are shared amongst all word-processor providers including: Apple's Pages, Google's Docs, Apache's Open Office Writer, and Microsoft's Word. In school, we are currently running Microsoft Word 2016, but we also have access to Google Docs (and you would be expected to be able to produce work in either application).

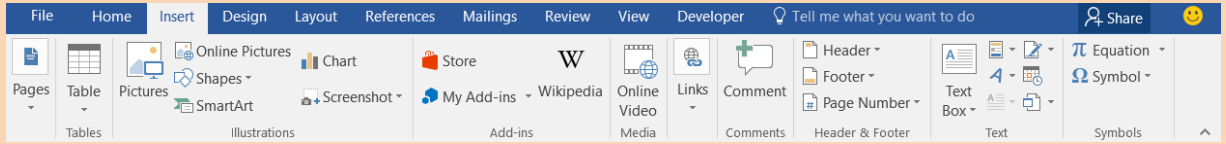
A Word processor is the best choice of software to use to produce reports, letters, an essay, a dissertation, or an article and also has some basic DTP features.

All word processing applications allow you to:

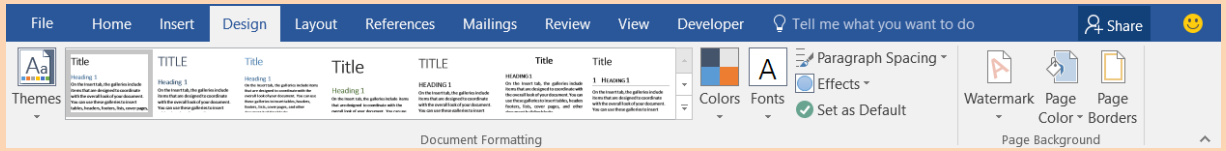
- enter and edit text
- save
- print
- cut/copy/paste
- check your spelling



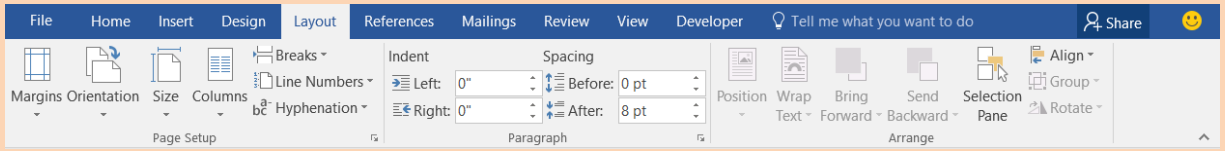
The **Home Ribbon** allows you to: **format** text, apply **styles**, utilise **find** and **replace**, and to apply formats such as **bullet styles** and **indents**. You can also access **colour fills** and **highlighting** from this ribbon too.



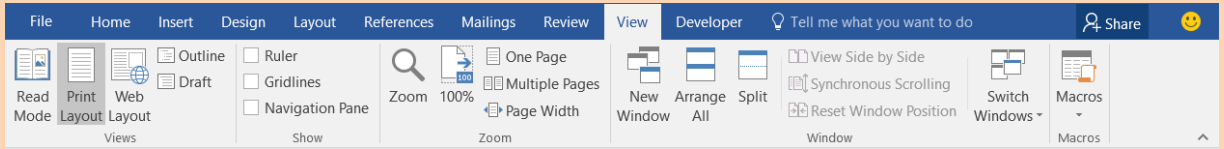
The **Insert Ribbon** allows you to: insert objects such as **Pictures**, **Shapes**, **Charts**, and **Text Boxes**. You can also control what goes in the **Headers** and **Footers** of your documents, and it also allows for the insertion of **hyperlinks**.



The **Design Ribbon** allows you to: change **page orientation**, **margin**, **page size**, and to divide your page into **columns**. It is where you insert **section breaks** (useful for switching between **Landscape** and **Portrait** pages) and can also help with the **alignment** of objects.

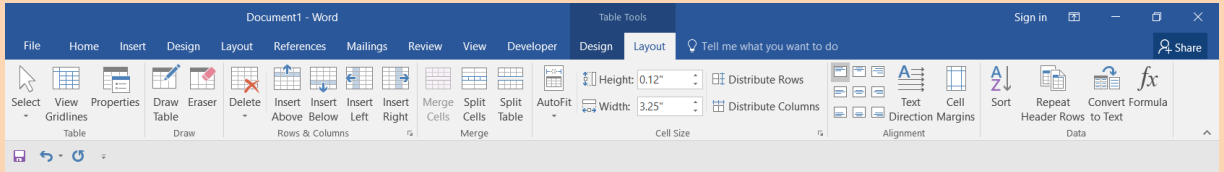


The **Layout Ribbon** allows you to: change page **orientation**, **margins**, **page size**, and to divide your page into **columns**. It is where you insert **section breaks** (useful for switching between **Landscape** and **Portrait** orientation) and can also help with the **alignment** of objects.



The **View Ribbon** allows you to switch between **print**, **web** and **read** views and it also allows you to open viewing tools such as the **navigation pane** (which allows you to navigate using **Header** styles). The **Split** feature is very useful for writing large documents as you can divide the document into two: think 'mirrored conclusion'.

The **Table Design Context Ribbon** gives you all of the options you need to *format* a table in a document. To access it, you simply **click on the table**. Here you can change **styles**, **background colours** (of **rows**, **columns**, or **cells**), change **border colours** and **styles**.



The **Table Layout Context Ribbon** gives you all of the options you need to *alter* a table in a document. To access it, you simply **click on the table**. Here you can add **columns**, **rows**, **change text direction**, adjust **properties** and both **split** and **merge** cells.

Many Office applications are now divided into **Ribbons** (collections of **tools**), **icons**, **menus** and the use of **Windows**.

4. USING APPLICATIONS

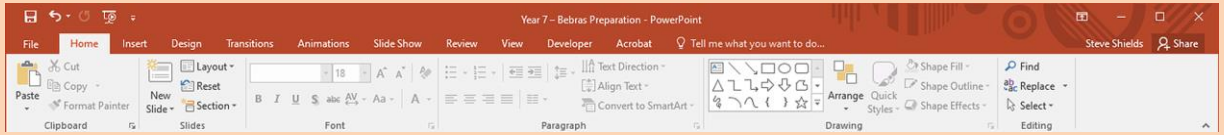
Microsoft PowerPoint 2016

Presentation software are examples of application software. They are designed to be used for presenting and combining multimedia and feature standard tools which are shared amongst all presentation providers including: Apple's Keynote, Google's Slides, Apache's Open Office Impress, and Microsoft's PowerPoint. In school, we are currently running Microsoft PowerPoint 2016, but we also have access to Google Slides (and you would be expected to be able to produce work in either application).

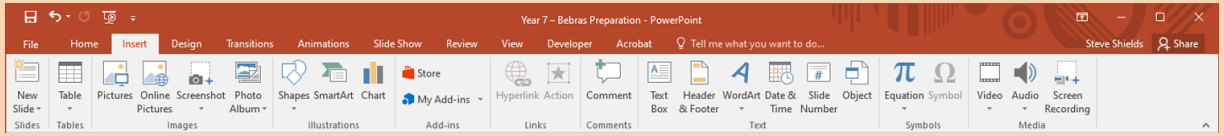
Presentation software is the best choice of software if you intend to present to an audience.

All presentation software applications allow you to:

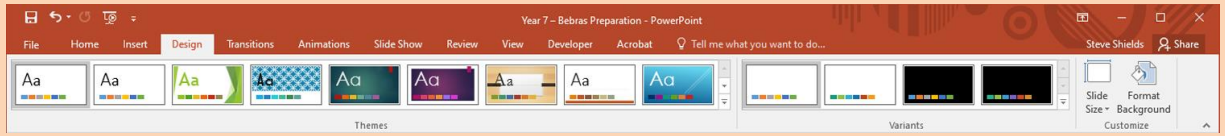
- divide content into Slides
- Use animations/transitions
- Use multimedia
- Use Note features
- Play autonomously



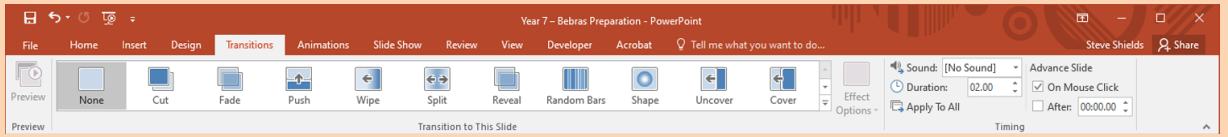
The **Home Ribbon** allows you to: **format** text, apply **styles**, utilise **find** and **replace**, and to apply formats such as **bullet styles** and **indents**. You can **arrange objects** and you can also **insert a New Slide**.



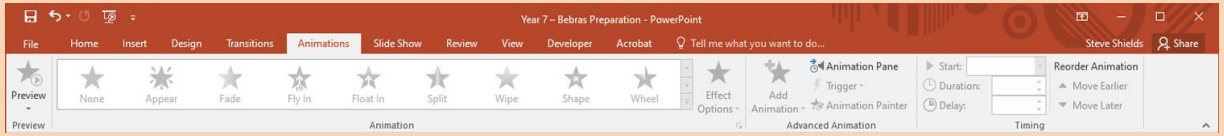
The **Insert Ribbon** allows you to insert the following: a **New Slide**, a **table**, **images**, **shapes** (including **SmartArt** and **Word Art**), **Charts**, a **Text Box**, **Headers** & **Footers**, **Slide Objects**, **Video**, **Audio** and **Symbols**.



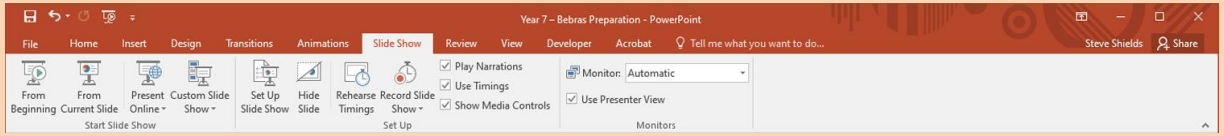
The **Design Ribbon** allows you to: change the **Themes** of the slide using templates (and **Variants** of each template), and it also allows you to alter the **Size** of the slide and to **Format** the **Background** colour.



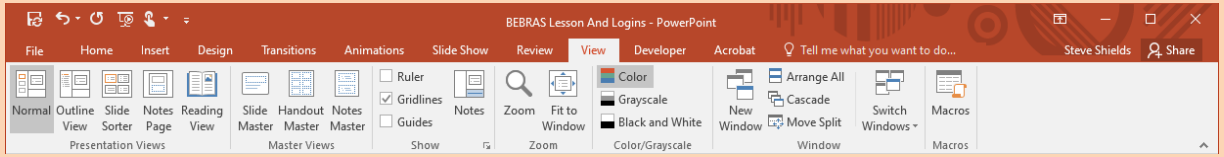
The **Transitions Ribbon** allows you to: select from a set of **Transitions** between slides, and to determine the **length** and **event** (either a **mouse event** or **automatic movement**) between transitions.



The **Animations Ribbon** allows you to: select the appropriate **entrance**, **emphasis** or **exit** animations for any given object, to **reorder** the **order** of animations, to change their **duration**.



The **Slide Show Ribbon** allows you to: decide **when** and **where** to play from, to change the **mode of presenting** (ranging from normal presentation, to **rehearsed** timings, to automatically playing at a **kiosk**) and to select the output device.



The **View Ribbon** allows you to: switch between **Normal**, **Outline**, **Slide Sorter**, **Notes**, and a **Reader** view. You can also switch to **Master** view for template design. You can turn on formatting guides such as **rulers**, **guides**, and **gridlines**. You can switch between **windows** and also change **colour** modes.

Increasingly, Presentation Software is taking on many of the features found in Screen Capture Software. This m,eans you can record your screen and embed a video of you as the presented within the presentation as well as use many of the features of a presentation. This can then be exported as a video and uploaded to a video streaming service such YouTube or Microsoft Stream.

4. USING APPLICATIONS

Year 7 Computer Science – Spring Term

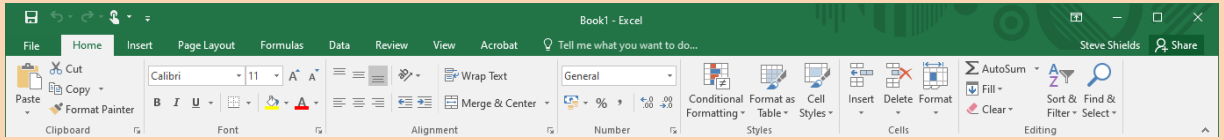
Microsoft Excel 2016

Spreadsheets are examples of application software. They are designed to be used for the handling of number and graphical data and these features are shared amongst all word-processor providers including: Apple's Numbers, Google's Sheets, Apache's Open Office Calc, and Microsoft's Excel. In school, we are currently running Microsoft Excel 2016, but we also have access to Google Sheets (and you would be expected to be able to produce work in either application).

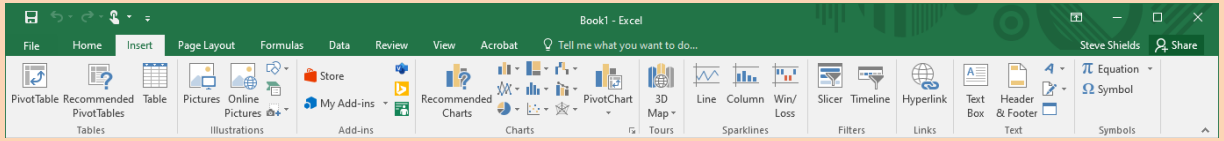
A spreadsheet is the best choice of document to use to handle number and to produce graphical information from that data. It can also act as a simple flat-file database.

All spreadsheet applications allow you to:

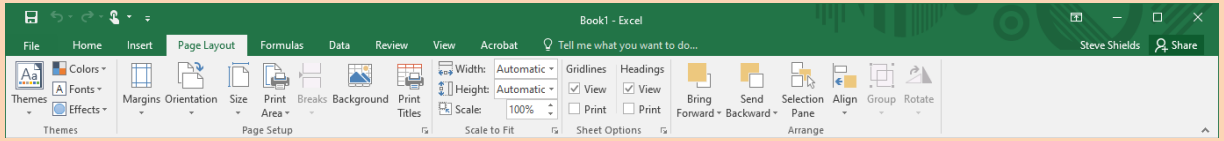
- Use of formula for calculations
- Use functions for tasks
- Create charts and graphs
- Arrange data in a tabular form
- Use filtering by criteria



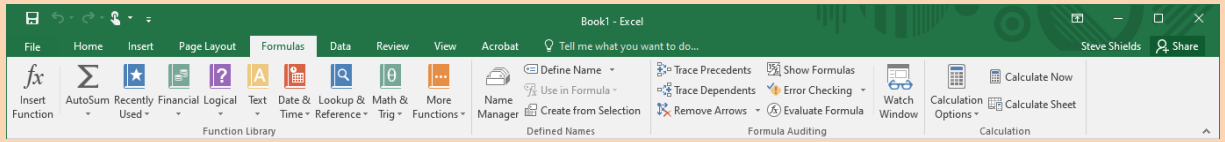
The **Home Menu** allows you to: **format text and cells**. You can also direct cell content **direction**, **merge** and **split** cells, change **data type** of cells, apply **styles** and insert /delete **rows** and **columns**..



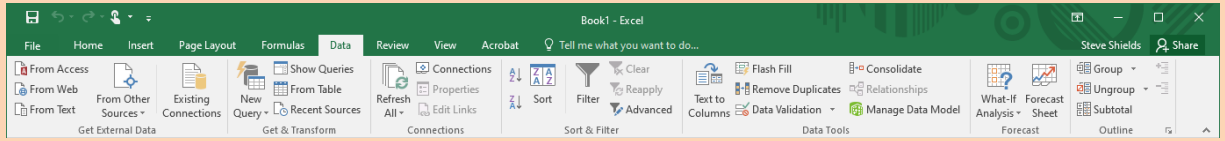
The **Insert Menu** allows you to insert the following: **Tables** and **Charts**, **Images**, **Sparklines**, **Hyperlinks**, a **Text Box** and **Headers and Footers** (as well as **WordArt**, **objects** and **equations** and **symbols**.)



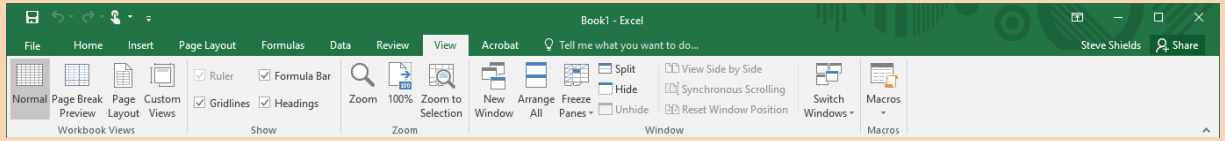
The **Page Layout Menu** allows you to: change the **Themes** of the spreadsheet using templates (and **colours** of each template), and it also allows you to define the **Print Area**, arrange **objects** on the sheet and change **Page Orientation**, **Margins** and **Size**.



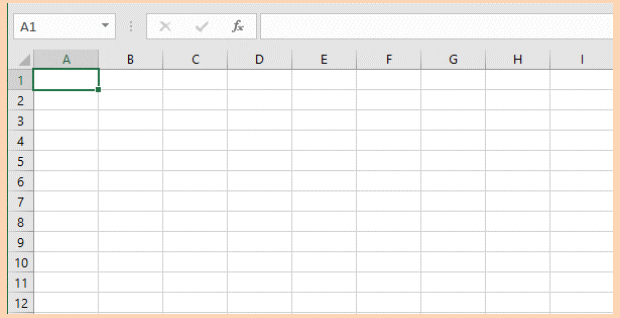
The **Formulas Menu** allows you to: insert predefined **Functions**, manage **named ranges of cells**, use **error checking** and to **trace dependencies** and to **watch contents of cells** in relation to **function operations**.



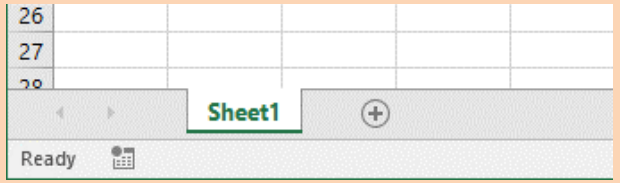
The **Data Menu** allows you to: **connect to other sources of data** and to **manage live connections**, **to Sort Data** and **Apply Filters**, to **separate text into columns** using identifiers, and to use **What-If** tools like **Goal Seek**.



The **View Menu** allows you to: **change views**, **zoom**, **Freeze Panes** (including **columns** and **rows**) and to **arrange active windows**.



The worksheets are divided up into **Columns** (which start with letters) and **Rows** (which start with Numbers) and where they intersect (join) these spaces are called **Cells**. A **cell reference** is the address of the cell. In the image shown here, you can see that cell **A1** has been selected. A cell range tells you all of the cells that have been selected so **A1: D10** would be referring to all cells from **A1**, down to **A10** and then across to **D10**.



Spreadsheets tend to be divided into **worksheets** which are then organised into **workbooks**. To add a **worksheet**, you would simply click on the **+** symbol.

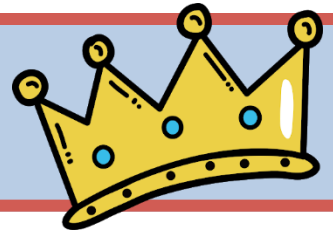
Knowledge of how to use Spreadsheets effectively is highly regarded. Spreadsheets are considered to be a 'killer app' in the conducting of a business, with multiple applications at work.

History – Term 3

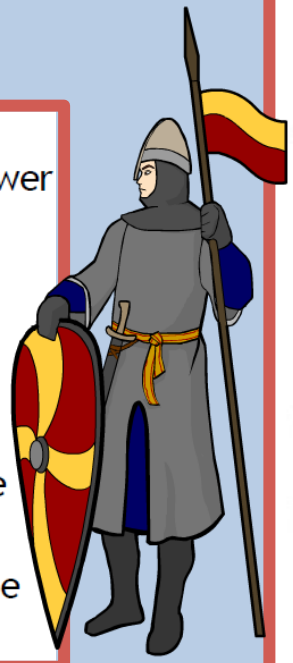
Power of the Kings

Medieval monarchs faced many challenges to their position, sometimes from other countries, their own family, or the Church.

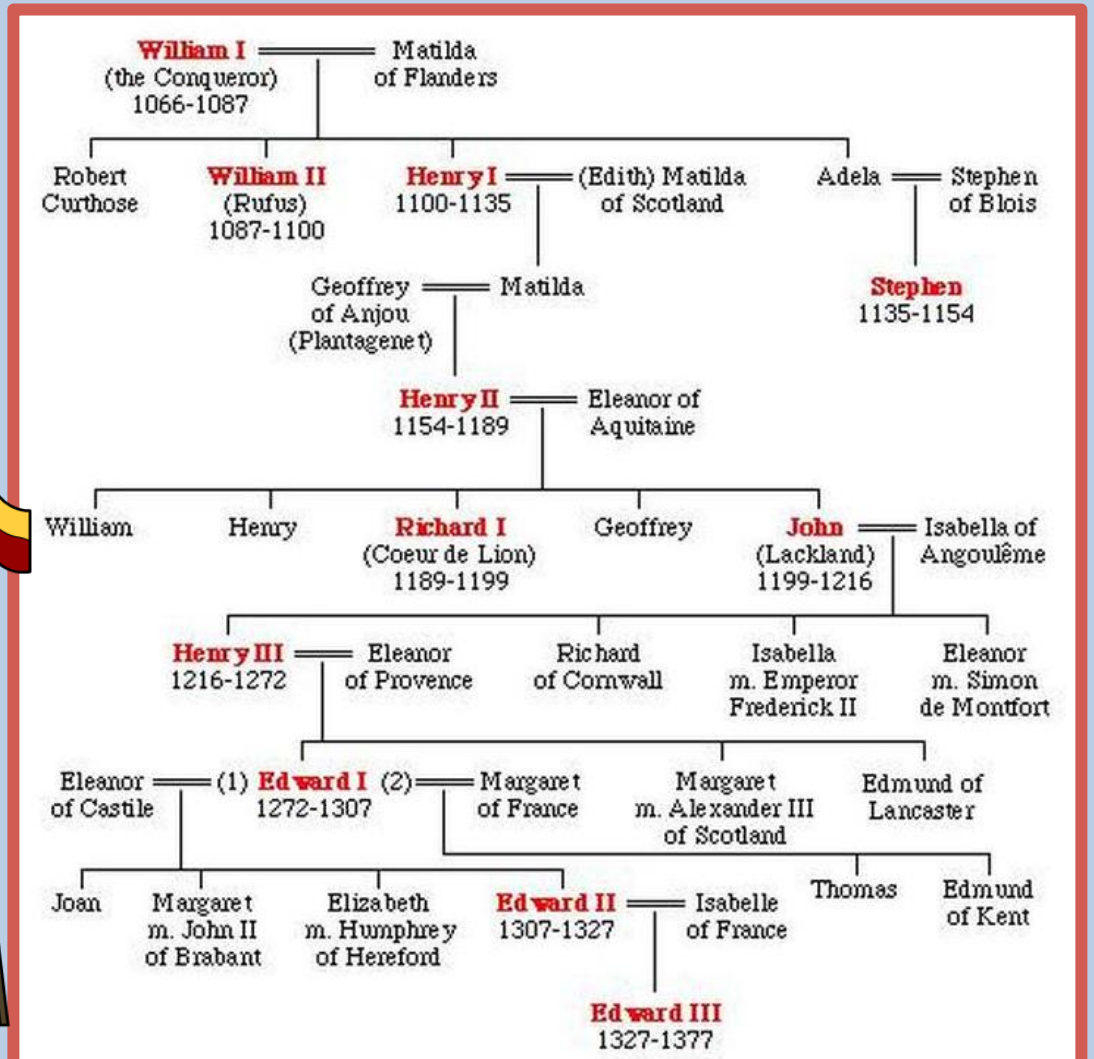
They had to adopt various tactics of dealing with the difficult circumstances, some monarchs were better at this than others!



- Monarchs gained **legitimacy** because they **inherited** their power from a previous monarch
- Female monarchs were seen as weak because they could not lead an army into battle
- Monarchs could gain power and **legitimacy** by showing their military strength by winning battles
- Monarchs needed the support of powerful people, such as the **barons** or the **Pope**
- Monarchs needed to be popular. Unpopular monarchs could be rejected or face **rebellion**



Medieval Kings



Henry II & Thomas Becket

Overview of the problems between the Monarch and the Church:

https://tinyurl.com/HenryandBecket

Key words and names:	
Religious	Things to do with what people believe and who and how they worship
Monarchy	A form of government with the monarch (a king or queen) at the head
Baron	An important nobleman, who was given lands directly by the King to rule on his behalf. Barons are referred to as 'Lord' and had a very high status.
Henry II	King of England in 1154-1189. Great-grandson of William the Conqueror. He argued with his Archbishop, Becket, over control of the English Church
Becket	Appointed the Archbishop of Canterbury by King Henry II. He was later killed by four knights in Canterbury Cathedral after quarrelling with Henry.
Law Court	Where a judge decides if someone is guilty of breaking the law after hearing evidence. Church courts were controlled by priests, not the king.
Archbishop	A bishop of the highest rank in the English Church, in charge of churches and other bishops in a certain area. They had a very high status.
Monk	Member of a religious community of men, living in a monastery, who took special vows showing their dedication to God (e.g. poverty, obedience)
Edward Grim	The man who witnessed the death of Thomas Becket in Canterbury Cathedral in 1170, and later published a book about Becket.
Knight	A man who served his Lord (often a Baron), by fighting as a soldier mounted on a horse, wearing armour. Knights are referred to as 'Sir'.
Pilgrimage	A journey to a holy place, to show faith in God. After he died, many went to Canterbury to pay their respects to Saint Thomas Becket.
Crusade(s)	'Holy Wars' fought between Christians and Muslims over the Holy Land (especially Jerusalem), located in modern-day Israel and Palestine
Sin	A deliberate action that goes against God. Sins range from 'big' acts like murder to 'smaller' acts like envy. The Pope said that if people went on Crusade, all sins would be forgiven. This was called an indulgence.

In the Middle Ages, it was unclear whether the King had more power than the Church. This was demonstrated in the story of Thomas Becket:

In 1162, Henry II named his friend Thomas Becket as **Archbishop** of Canterbury.

Henry wanted Becket to force priests to use the **King's Courts**, instead of getting away with light punishments in the **church courts**. He also wanted Becket to help him control the bishops.

When Becket refused to do this, the two men fell out. In a rage, Henry shouted "Will no one rid me of this troublesome priest?". A group of knights overheard him and murdered Becket.

Henry was horrified when he heard of Becket's death and ordered **monks** to whip him to show he was sorry.

The Power of the Church

Heaven and Hell

People in the Middle Ages believed that heaven and hell were real places.

After death, they believed, angels would decide if you would spend eternity in heaven or hell.

Heaven was the kingdom of Jesus. It was reserved for those who had lived a good life.

Hell was the kingdom of the Devil. Sinners were sent here. Living in hell meant an eternity of pain and suffering.

Getting into Heaven

There were several ways to increase your chances of going to heaven and avoiding hell:

Becoming a nun or a **monk** and spending life in a nunnery or **monastery**. Nuns and monks dedicated their lives to God, praying eight times a day and serving their community. The rich often gave money to support **monasteries**.

Earning an **indulgence**. These were certificates that forgave sins. They could be bought or earnt by charity work.

Going on **crusade**. Christians and Muslims fought over the holy city of Jerusalem. The Pope promised to forgive the sins of crusaders.

Church Hierarchy

The Pope
God's representative on earth. Lived in Rome. Could **excommunicate** kings.

Archbishop of Canterbury
The Pope's representative in England and the most powerful member the Church.

Bishop
The leader of the church in a local area. There were 17 bishops in the Medieval Church, each based at a **cathedral**.

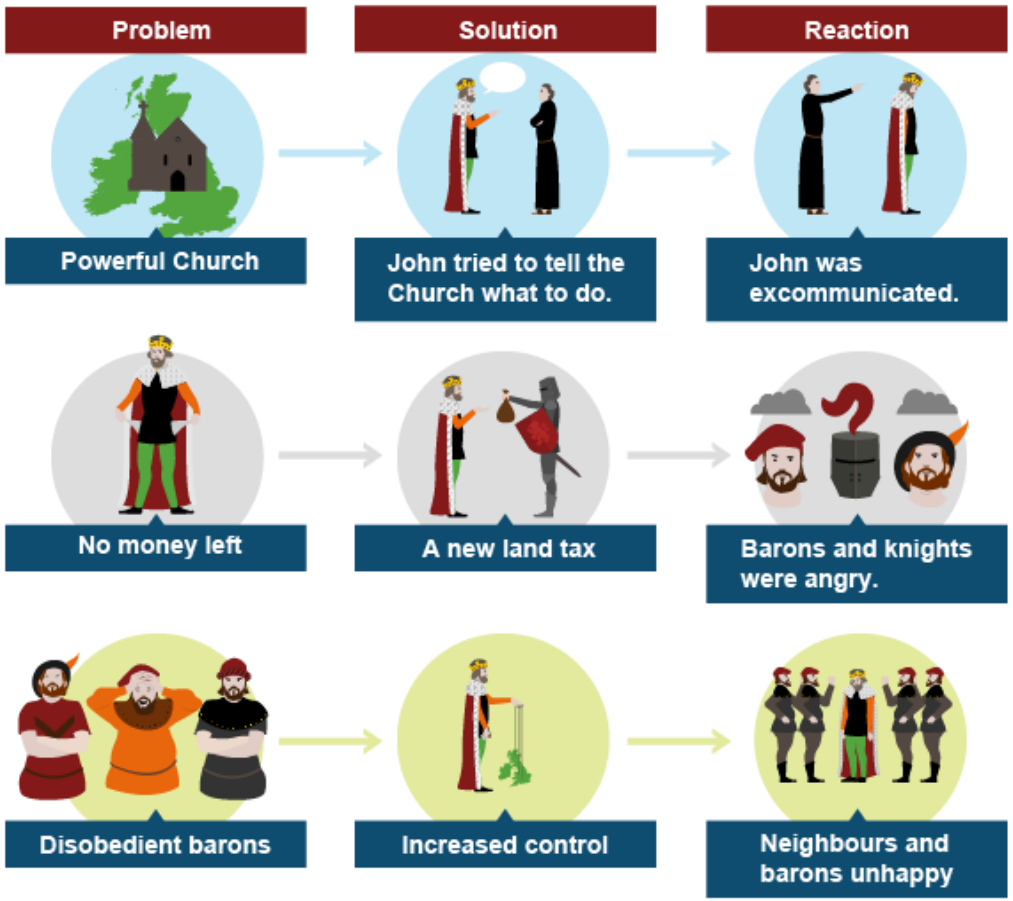
Priest
Each town and villages had a priest to run church services.

King John and the Magna Carta

Overview King John and the Magna Carta

https://tinyurl.com/KingJohnMagnaCarta

Background to King John's Problems



Why was John unpopular?

John was forced to introduce a new land **tax** to repay money that his brother, Richard I, had borrowed to pay for the **Crusades**.

The French invaded English **territory** in Normandy. John tried to win it back but lost the Battle of Bouvines in 1214. He was nicknamed 'Softsword'

John tried to force the Church to accept his choice for **Archbishop**. In response, the Pope **excommunicated** John and stopped church services in England.

Baron's Revolt 1215

In May 1215, 40 English **barons** rebelled against King John.

With support from the French and Scottish, they formed an army and captured London.

John met the rebels at Runnymede, near London and agreed to **Magna Carta**.

Magna Carta

Magna Carta - or 'Great **Charter**' - was a document signed by King John limiting the power of kings. It was the first time that a set of rules had been written for the king.

The most important parts:

- Gave all free men the right to **trial by jury**
- Limited the amount of **tax** the barons had to pay
- Limited the power of the King over the Church

History – Term 4

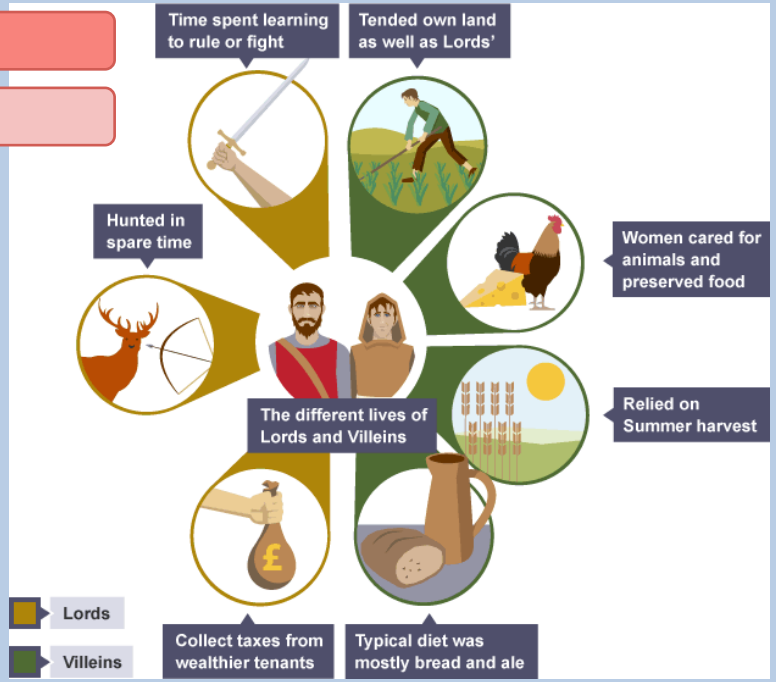
Medieval Lives

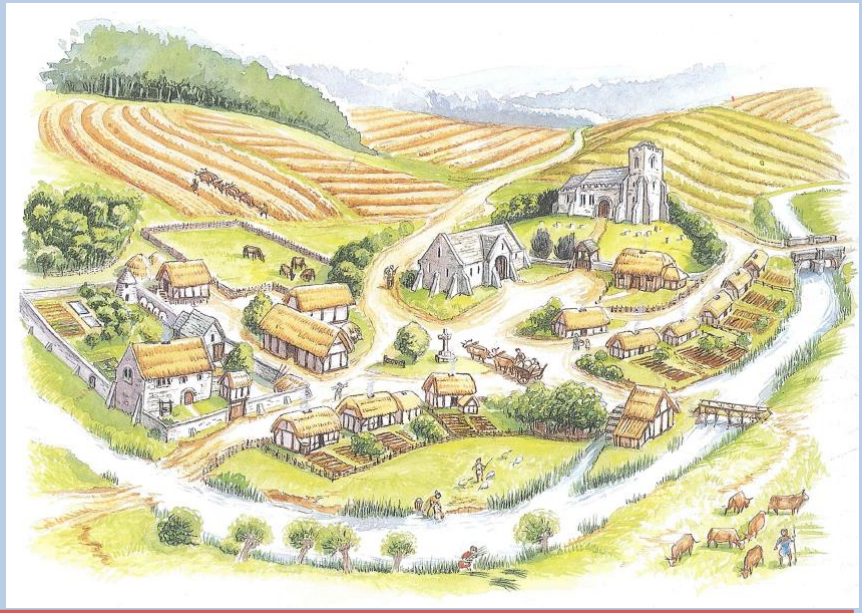
Society, Status and Life in the Medieval Village
Most people were peasants, who had very few rights and who lived in villages called ‘manors’. Life for an average peasant was hard and work was back-breaking.
The Feudal System is the name for a power structure where people held land in return for promising loyalty and services such as working or fighting for their lord.
Village life was not all misery. Holy days meant a day off work. Peasant fun was rough, including wrestling, shin-kicking and cock-fighting. The ball was almost unnecessary to a medieval ball game, which was basically a fight with the next village.
Noblemen had a high status, often living in castles with a great hall and servants.

Key Vocabulary	
Economic	Things to do with money, finances, jobs, trade and wealth. There were many economic causes, for example, of the Peasants Revolt.
Political	Things to do with leaders (monarchy and Parliament), laws, government and rulers. The Peasants Revolt, for example, was a political protest.
Social	Things to do with ‘normal people’ and how they lived (e.g. home life, community). The Black Death, for example, had huge social consequences
Tax	Where people pay money to the government or to the church. It is compulsory (people have to do it), so it isn’t popular amongst the poor
Status	The position you hold in society. In Medieval times, people had a fixed status (low, medium or high); they were part of a social hierarchy.
Freeman	These people paid rent to the lord to farm their land, but they weren’t ‘owned’ by the Lord, and could come and go as they pleased.
Villein	They were Medieval peasants who were ‘tied’ to the Lord’s land. They had to farm their own land and the land of the Lord, and they had to get the Lord’s permission to do things like get married or leave the village.
Black Death	A plague (fast spreading disease). It is said that between a quarter and a third of the population died, wiping out c. 40% of the English population in 1348-1350. It was carried by fleas who lived on rats.
Buboes	Painful swellings that appeared on a victim’s armpits and groin if they were infected by the Black Death. Often led to a painful death.
Bubonic & Pneumonic	The two different types of plague. Bubonic plague, which was carried by rats and caused buboes, was the most common form. Pneumonic plague was an advanced stage of Bubonic plague that spread to the lungs.
Statute of Labourers	This Statute (law), passed after the Black Death, said labourers could not earn more than 2 pence per day. It was bitterly resented by the peasants.
Flogging	To be beaten with a stick or whip as a punishment. Some people flogged themselves in the Middle Ages to show God they were sorry for their sins.

Overview Medieval Towns:

https://tinyurl.com/townandvillages





Living in a medieval town:

- A medieval town would seek a charter giving it the right to become a borough. The rich merchants would then be allowed to choose a mayor and hold a market.
- Houses were made of a wooden frame, with the gaps filled with woven strips of wood, known as 'wattle', and covered, or 'daubed', with clay and horse-dung. Most roofs were thatch.
- Medieval shops were workshops, open to the street for customers, with the craftsman's house above. Because few people could read, shops signs were a huge model showing the craftsman's trade. People of the same trade often worked in the same street.
- The streets of a medieval town were narrow and busy. They were noisy, with the town crier, church bells, and traders calling out their wares. There were many fast food sellers, selling such things as hot sheep's feet and beef-ribs.
- Criminals were put in the stocks or the pillory. These were wooden boards with holes for feet, hands or head. Medieval punishments were cruel, and crimes such as theft were punished by hanging.
- Holy Days would be marked by colourful processions, as the different guilds competed to make the best display.
- If a serf ran away from his village to a town and remained free for a year and a day, he could become a 'freeman' of the town.

Living in a medieval village:

- Life for the peasants was hard.
- Work followed the seasons – ploughing in autumn, sowing in spring, harvesting in summer. Work began at dawn, preparing the animals, and it finished at dusk, cleaning them down and putting them back into the stalls.
- A peasant's hut was made of wattle and daub, with a thatch roof but no windows.
- Inside their homes there was space for animals to be kept. Animals lived with the family. A fire would be built in the middle of the house, meaning the air would be smoky. There would be a lack of furniture too, maybe some stools, cooking pots and somewhere to keep the bedding. Peasants would sleep on the floor.
- Peasant food was mainly vegetables, plus anything that could be gathered – nuts, berried, nettles. The usual drink was weak, home-brewed beer. Honey provided a sweetener. If bread was eaten, it would not have been white bread, but black rye bread.

The Black Death

Black Death	The name given to the plague because of the black spots which caused death
Buboes	Large swellings under the arm and the groin, which were filled with black pus and exploded
Miasma	'Bad air' which was blamed for spreading the disease
Bubonic	The Black Death caught by flea bites to humans
Rats	The fleas on the rats caused the Black Death. People at the time did not know they caused the disease
Pneumonic	The Black death spread human to human by breathing
Mass Grave	A grave where large numbers of bodies are laid to rest
Herbal Remedy	Medicine made from plants with natural cures
Anti-Semitism	Anti-Jewish actions - Jews were blamed for causing the Black Death by poisoning water supplies
Flagellant	People who whipped themselves to show God they were sorry so he would cure their disease
Leeching	The use of leeches for drawing blood from patients
Plague Doctor	A doctor that wore protective clothing who would diagnose the Black Death
Epidemic	A widespread outbreak of a disease
Sins	Wrongdoings which people believed God punished you for by giving you the plague such as gambling or drinking alcohol

The Black Death

The plague spread very quickly in the warm winter of 1348-9.

Some methods which people at the time thought would cure the plague or stop them catching it included: flogging and praying to ask God for forgiveness; isolation (keeping away from the sick); cleaning the streets; holding sweet herbs to the nose.

The nursery rhyme 'ring-a-roses' is a reference to the Black Death.

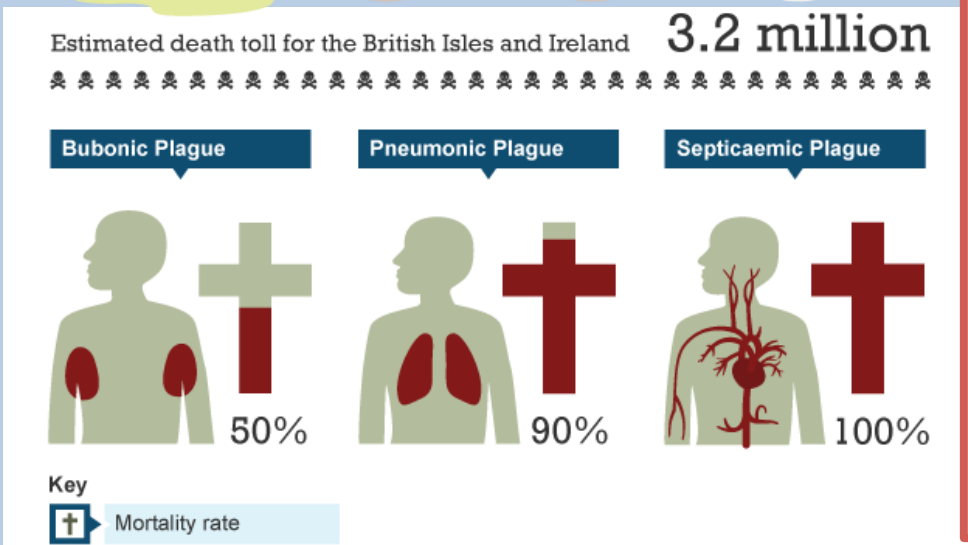
After the plague, prices of food and other goods fell. The shortage of labourers meant that wages went up. Some villages were abandoned. In other villages, survivors were able to buy or rent all the spare land. So some peasants became much richer.

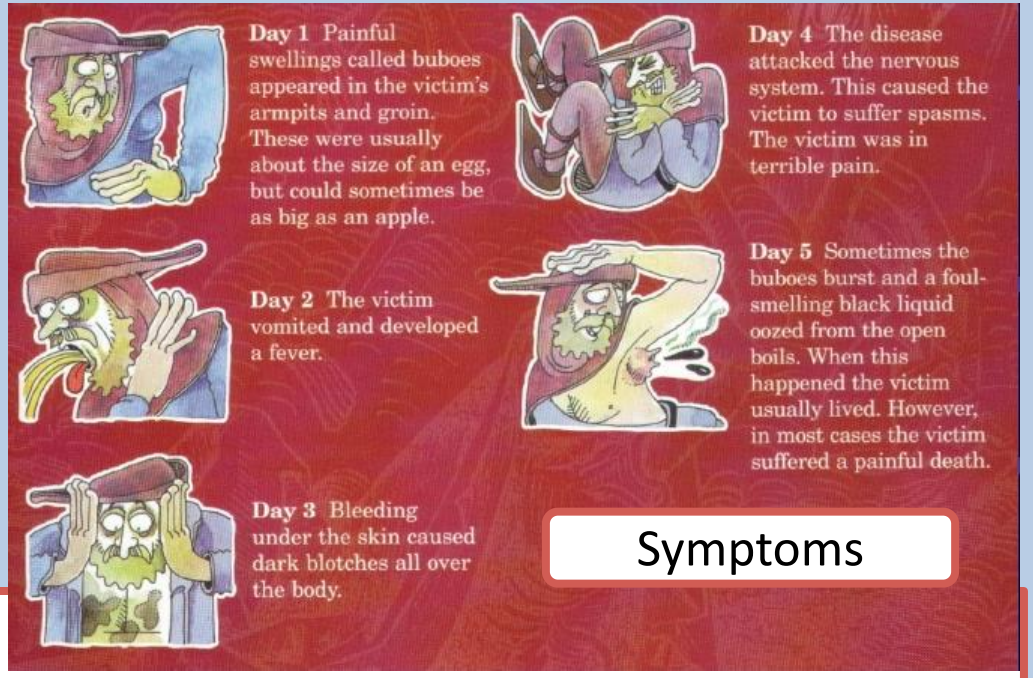
Overview of the Black Death:

https://tinyurl.com/BlackDeathPlague

Some of the cures they tried included:

- Rubbing onions, herbs or a chopped up snake (if available) on the boils or cutting up a pigeon and rubbing it over an infected body.
- Drinking vinegar, eating crushed minerals, arsenic, mercury or even ten-year-old treacle!
- Sitting close to a fire or in a sewer to drive out the fever, or fumigating the house with herbs to purify the air.
- People who believed God was punishing you for your sin, 'flagellants', went on processions whipping themselves.
- In the 1361 - 1364 outbreak, doctors learned how to help the patient recover by bursting the buboes.
- Doctors often tested urine for colour and health. Some even tasted it to test.





Consequences of the Black Death

Deaths

Estimates differ, but most historians believe that the Black Death killed half the population of Europe. In some places, eg the village of West Thickley in County Durham, it killed everybody. The death-rate was especially bad in monasteries, where the monks stayed together and cared for each other. Some historians (Benedictow 2004) suggest that the wealthier classes were less affected due to their wealth enabling them to flee from outbreaks.

Effects

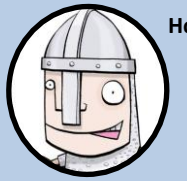
The precise effects are difficult to assess given the huge loss of life and subsequent inconsistent records. In some places there was even no-one left to bury the dead let alone record the effects. However, historians have suggested the Black Death had significant consequences:

Psychological: the Black Death had a huge influence on the way people thought about life. Some lived wild, immoral lives, others fell into deep despair, whilst many chose to accept their fate. Many people were angry and bitter, and blamed the Church – some historians think this helped the growth of the new 'Lollard' religion in the 15th century. It could also be argued that the Black Death had brought down rich and poor alike. Having faced and survived the plague, people at the bottom of society were more prepared to question their position in society.

Social: poor people began to hate their poverty and their 'betters' – some historians think this helped to destroy the feudal system.

Economic: there was a great shortage of workers, and when Parliament passed laws to stop wages rising, poor people became very angry – some historians think this helped to cause the Peasants' Revolt of 1381.

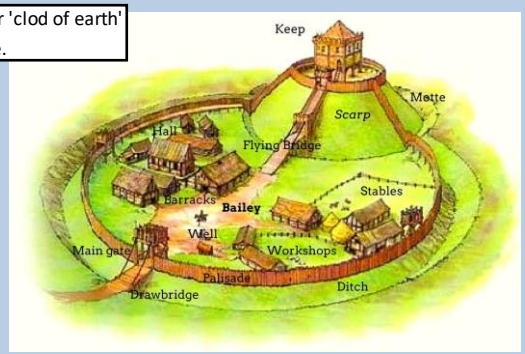
Medieval Castles



How did castles develop?

Motte - mound or 'clod of earth'
Bailey - enclosure.

Motte and Bailey

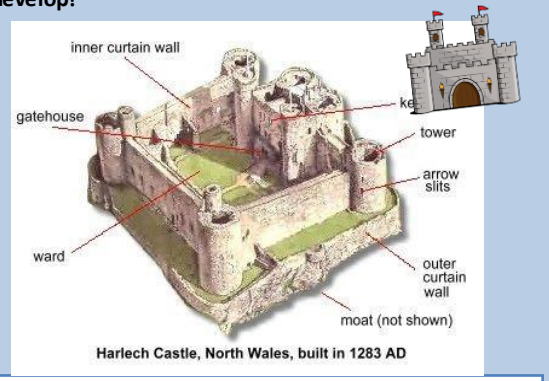


Motte and bailey castles appeared in England after the Norman Conquest of 1066. Motte and bailey castles were a common feature in England by the death of William the Conqueror in 1087. Their construction was the start of what was to become a massive castle building programme in England and Wales.

The most important part of the Motte and Bailey castle was the Keep. It was built on a huge mound (the motte). Mottes ranged from 25 feet (8 meters) to over 80 feet (24 meters) in height

The major weakness of the motte and bailey castle was the likelihood of the keep rotting or burning down. The solution was to build stone keeps but these could not always be built on the same site since the weight of the stone would sink into the motte.

Stone Keep

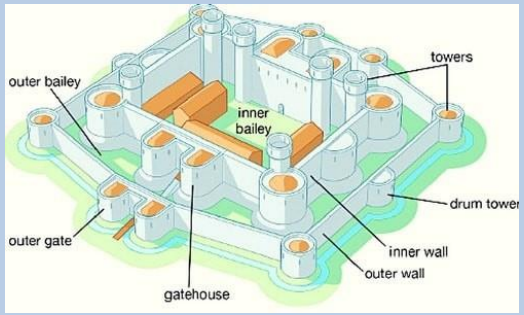


Harlech Castle, North Wales, built in 1283 AD

Stone keep castles were first built during the reign of William I as a natural extension to the more traditional motte and bailey castles. The main difference between the two was that motte and bailey castles were designed to be temporary (although lots survive to this day) while stone keep castles were designed to last as long as possible.

Following rebellion in the north of England, and the subsequent "Harrying of the North" in response, William the Conqueror decided to build stone keep castles as the ultimate display of his power. The most famous of these castles was the White Tower at the Tower of London and Rochester Castle in Kent.

Concentric castles



After stone keep castles, concentric castles became popular in England. This occurred during the reign of Edward I and they are mainly associated with north-west Wales, where many were built. The most famous concentric castles include Harlech, Beaumaris, Caernarfon and Conwy.

While stone keep castles were square and based around a central keep, concentric castles had no 'strong' point and were instead considered to be secure the whole way round. Each of these castles did have a strongly defended entrance point though, and the core of the castle was defended by a series of curtain walls. The furthest of these would have been the shortest to allow defenders to spot an enemy as they approached. Similarly, the curtain wall closest to the edge of the castle would have been longest to give those defending the castle the greatest height advantage over their enemy.

Bailey	A castle courtyard
Barbican	A stone building protecting the gateway or entrance of a castle
Battlements	A parapet with indentations and raised portions (merlons). Battlements are sometimes called crenellations.
Buttress	Projection from the wall that provides extra support for the building
Concentric	Castles built with rings of stone walls one inside the other
Constable	Official in charge of a castle when the owner is absent
Curtain	Connecting wall between towers of a castle
Drawbridge	A movable bridge. Drawbridges usually moved horizontally
Fosse	A ditch surrounding a castle
Garderobe	A castle toilet. The garderobe was often a projection from the wall over the moat
Gatehouse	A building protecting the entrance to a castle
Great Hall	The main room in the building where the castle owner and his family lived
Keep	Main stone tower of a castle
Loop	Narrow opening in castle wall that was used by archers to fire on attacking soldiers
Machicolations	Projecting stonework on the outside of castle towers or walls, with holes in floor for dropping missiles on people attacking the castle
Moat	A deep wide trench round a castle
Motte	A mound of rammed layers of soil. Some mottes were only about 5 metres (16 feet) high, but some were over 18 metres (60 feet). The Normans built wooden watchtowers on the top of their mottes
Murder-Holes	Holes in the roof or ceiling of a castle. Cold water could be poured through the holes to put out fires. These holes were also used for pouring scalding water, hot oil or other substances on soldiers who had managed to enter the castle
Palisade	A strong timber fence built on top of an earth rampart.
Parapet	A low wall on the outer side of the main wall.
Portcullis	Grating made of metal and wood. The portcullis was dropped vertically from grooves to block passage through the gate of the castle.
Rampart	A defensive stone or earth wall surrounding a castle.
Shell-Keep	A wall surrounding the inner portion of the castle.
Solar	The upper living room of castle. The solar was usually situated above the hall and was used mainly as a bedroom.
Tower	A high building. Towers in castles were either square, many sided (polygonal), or round.
Turret	A small tower. A turret on top of the main tower was often the main observation point in a castle

1066	1085	1095	1170	1215	1314	1348	1381	1415	1485
The Battle of Hastings	The Domesday Book is completed	The First Crusade is decreed	Thomas Becket is murdered	Magna Carta is signed	Battle of Bannockburn	The Black Death arrive in Britain	The Peasant's Revolt	Henry V defeats the French at Agincourt	Richard III is defeated at the battle of Bosworth

1 Ladders

Ladders were used by those attacking a castle to climb over the walls and fight the castle inhabitants within the castle walls. However, ladders had the disadvantage of leaving the man climbing the ladder subject to attack by arrow, boiling water or oil, or by being thrown to the ground if the ladder was pushed away from the wall.

Attacking a Castle

2 The Battering Ram

The thick stone walls of the Stone Keep castles were difficult for men to knock down. Although pickaxes could be used against castles with thinner walls, it would take a very long time to knock a hole through a castle with very thick walls. The battering ram was particularly useful since the weight of several men would be put behind it. This would seriously weaken and possibly destroy doors or walls. Unfortunately, the defenders of the castle could throw boiling oil or fire arrows at the attackers as the Battering Ram had no protection from these missiles.

Attacking a Castle

3 The Catapult

A variety of catapults or siege engines were developed during the Middle Ages to fire stones, fireballs or other objects such as dead sheep, cattle, or plague victims, at the castle walls or into the castle itself. This type of catapult works by twisting rope as tightly as possible so that it acts like elastic when the arm is released. The catapult was very heavy to pull into place.

Attacking a Castle

4 The Trebuchet

A trebuchet a type of catapult that was used in the Middle Ages. It is sometimes called a counterweight trebuchet. The counterweight trebuchet appeared in both Christian and Muslim lands around the Mediterranean in the 12th century. The average weight of it's projectiles ranged from 50 -100kg with an average throwing distance of 300m, however balls of up to 1500kg were recorded to have been used at the battle of Ashyun.

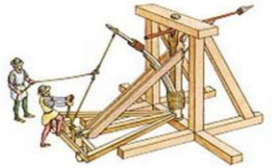
Attacking a Castle

5 The Longbow

- The longbow dominated medieval warfare. he long bow was about six feet long and made from a yew tree. An experienced archer could shoot an arrow every five seconds. From 200 metres, a longbow arrow could penetrate the armour worn by soldiers. Plate armour gave more protection but could still be penetrated from 100 metres. The maximum range of a long bow was 400 metres but at this distance, it was far less effective.
- In 1346 at the Battle of Crecy, English archers devastated the French who lost 11 princes, 1,200 knights and 30,000 common soldiers. The English lost just 100 men.

Attacking a Castle

6 The Ballista

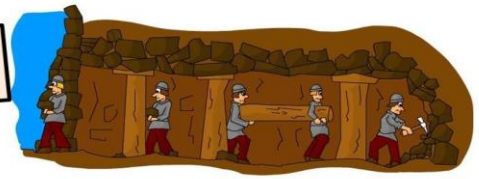


The next medieval weapon is the ballista. This ancient weapon was actually just a giant crossbow capable of firing enormous bolts that could pass through several men at once. It was not very effective and could not be used against walls.

Attacking a Castle

Mining under the castle

7



A good way of attacking a stone castle was through mining. Skilled miners (sappers) were used to dig tunnels under the walls/ towers, using wooden poles to support the tunnel. They would then burn the poles and the wall or the tower would collapse. The advantage of mining was that the attack could not be seen by those living in the castle. However, if those inside the castle were aware that attackers were mining underground, they would often mine from the castle to meet the attackers underground and there would be a sword battle.

Attacking a Castle

Putting the Castle under Siege

Castles were sometimes so strong that the only method of attack was to wait. This was called laying siege. It was basically staying out of arrow range and surrounding the castle until it was starved into submission. Sieges could take a very long time to work. Many castles had wells in the keep and large storerooms always prepared in case of a siege.

8

Attacking a Castle

What were the strengths and weaknesses of these forms of attack?

Castle Defences

Curtain Walls


As castles were static (didn't move), an enemy could usually get close to the actual buildings. Therefore outer walls -curtain walls - were built as a first line of defence. If these were broken into, then the castle itself had many defensive features.

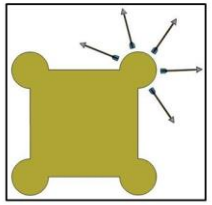
Castle Defences

Machicolations


These were stone boxes that projected from the walls of castles and had holes in the floors for dropping stones or boiling oil on attackers. Wooden versions of these were called hoards.

Castle Defences

Round Towers

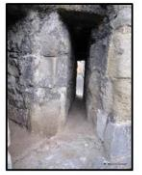



It was harder for attackers to make round towers collapse. Unlike square towers they had no corners, which collapsed if holes were dug underneath the foundations. Furthermore, the tower also allowed the soldiers inside the castle to fire in all directions along the front walls

Castle Defences

Arrow Loops



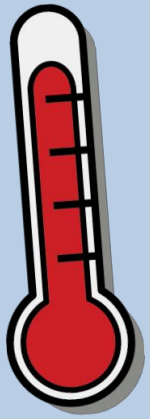


These provided a safer means of firing arrows on the attackers of the castle. They are found in many different styles on the curtain wall and towers of the castle.

Castle Defences

The Moat

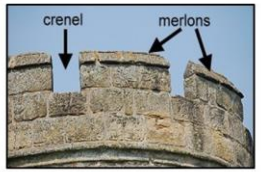

Attackers were easy to shoot whilst swimming or rowing across the moats filled with water. Moats reduced the risk of tunnelling under the castle.



How effective were these features in protecting the castle from attack?

Castle Defences

The Battlements

The top of the castle walls were the battlements, a protective, tooth shaped parapet often with a wall walk behind it for the soldiers to stand on. The defenders could fire missiles through gaps (crenels). The raised sections between, called merlons, helped to shelter the defenders during an enemy attack.

Castle Defences

Spiral Stair Case and Trip Step


Spiral stair cases were a useful defence once the attackers were in the castle. The stair case usually spiralled clockwise which made it difficult for right-handed attackers to use their sword. A trip-step would be built into the stair case. It would be shorter than the other steps which could make the attacker lose his footing and trip up.

Castle Defences

The Portcullis


A spiked wooden or metal barrier, called portcullis, helped protect the doors from fire and battering. It was lowered by chains from a chamber above the gateway.

*The word portcullis comes from the Old French *porte-coleice*, meaning sliding door.

*(one pence coins carry an image of them).

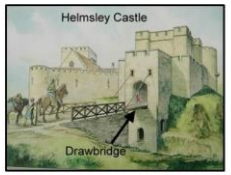
Castle Defences

Murder Holes


Murder holes were openings in the ceiling just in front of a gate or in the passage beyond. They were so called because it was believed that they were used by defenders to pour hot sand, water and lime through to kill and wound an enemy.

Castle Defences

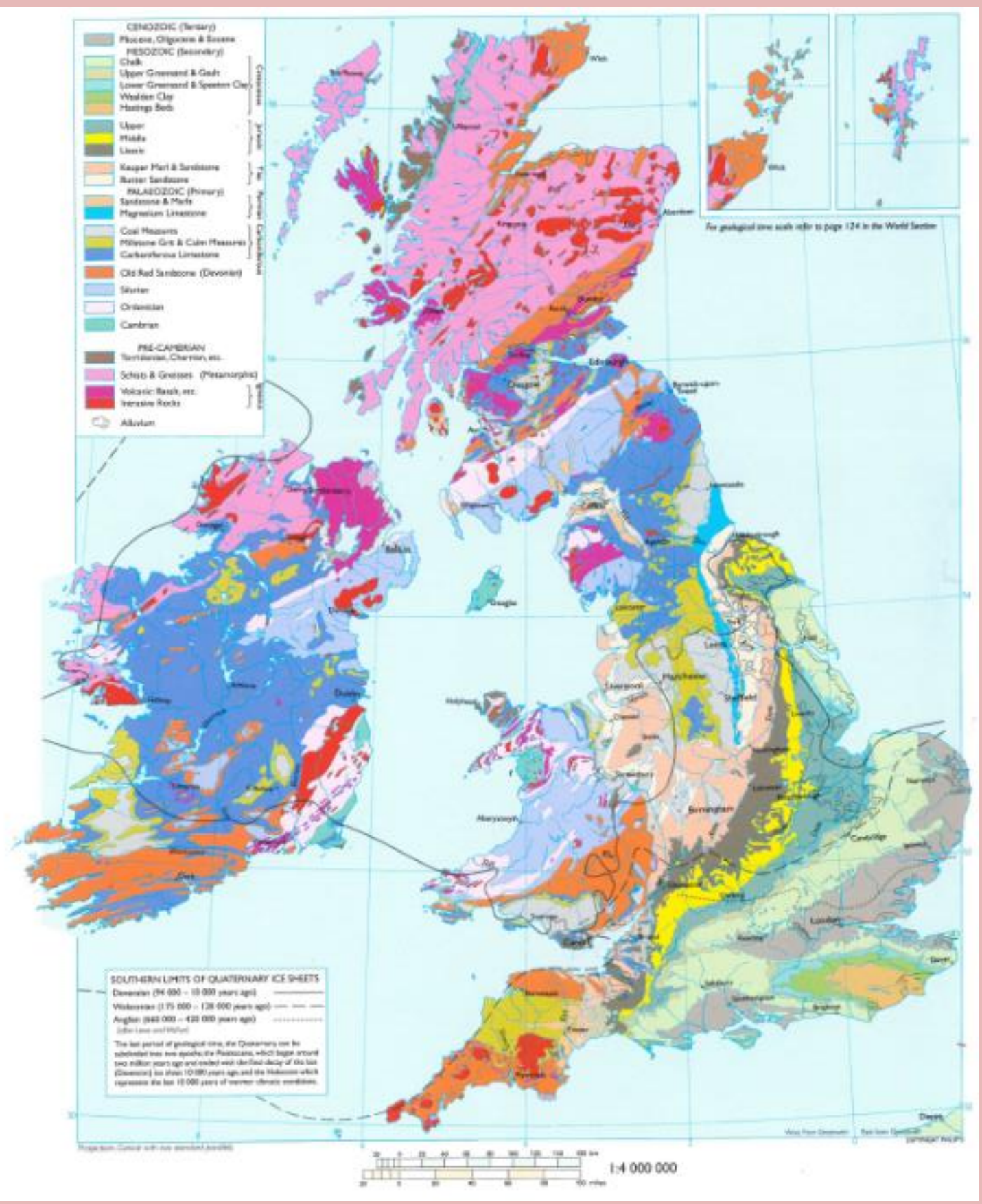
The Drawbridge

To stop the enemy actually getting in, the entrance to the castle was heavily fortified it was known as a barbican. It had a drawbridge which could be lifted up to stop the enemy getting inside the castle.

Limestone Landscapes

UK Geological Map



The Rock Cycle

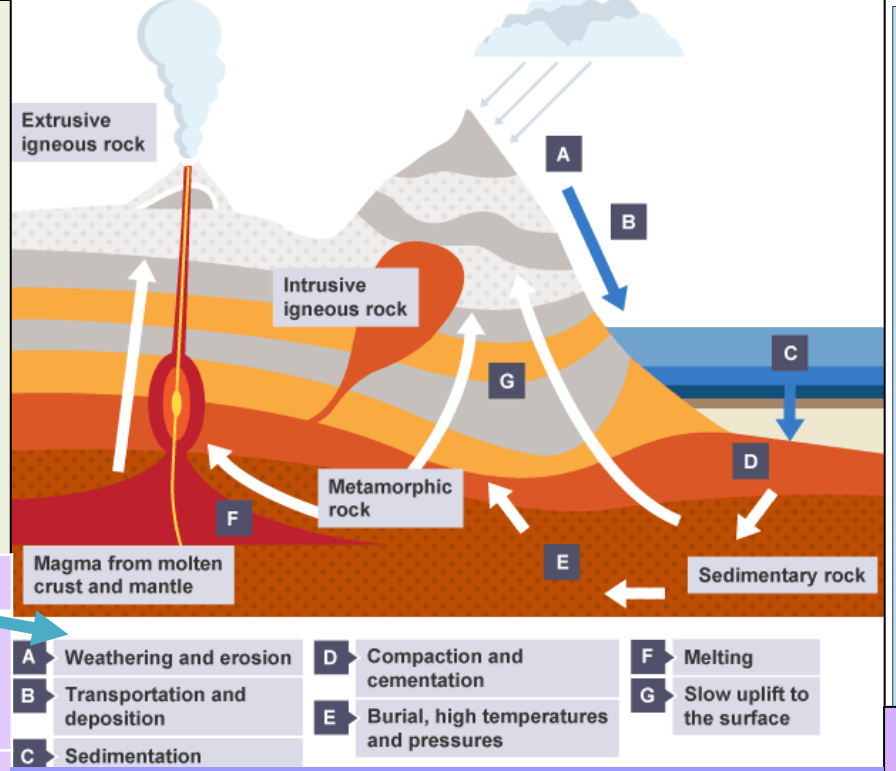
There are three main categories of rock:

- **igneous** (for example, basalt and granite)
- **sedimentary** (for example, limestone, sandstone and shale)
- **metamorphic** (for example, slate and marble)

Continual change

The Earth's rocks do not stay the same forever. They are continually changing because of processes such as **weathering**, **erosion** and large earth movements. The rocks are gradually recycled over millions of years. For example, **sedimentary rocks** can be changed into **metamorphic rocks.** These can then be weathered, eroded or even pieces transported away. The pieces of rock could be deposited in a lake or sea, eventually forming new sedimentary rock. Many routes through the rock cycle are possible – look at the diagram (right):

	Description
A	Weathering breaks down rocks on the surface of the Earth. There are three types of weathering (biological physical and chemical). Wind and water move the broken rock particles away. This is called erosion.
B	Rivers and streams transport rock particles to other places. Rock particles are deposited in lakes and seas.
C	Rock particles form layers
D	Compaction and cementation presses the layers and sticks the particles together. This creates sedimentary rock.
E	Rocks underground get heated and put under pressure, and are changed into metamorphic rock.
F	Rocks underground get heated and melt into magma. Magma is found deep inside the Earth, from a region called the mantle. Pressure can force magma out of the ground, creating a volcano. When the magma (lava) cools quickly, it turns into solid extrusive igneous rock., if it cools slowly it forms solid intrusive igneous rock.
G	Areas of rock can move slowly upwards, pushed up by pressure of the rocks forming underneath. This is called uplift.

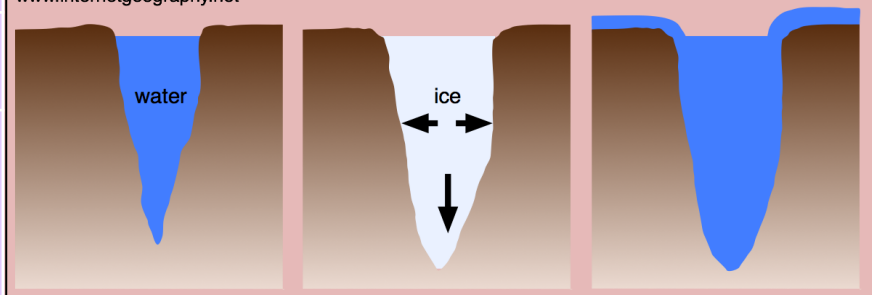


KEY WORDS:

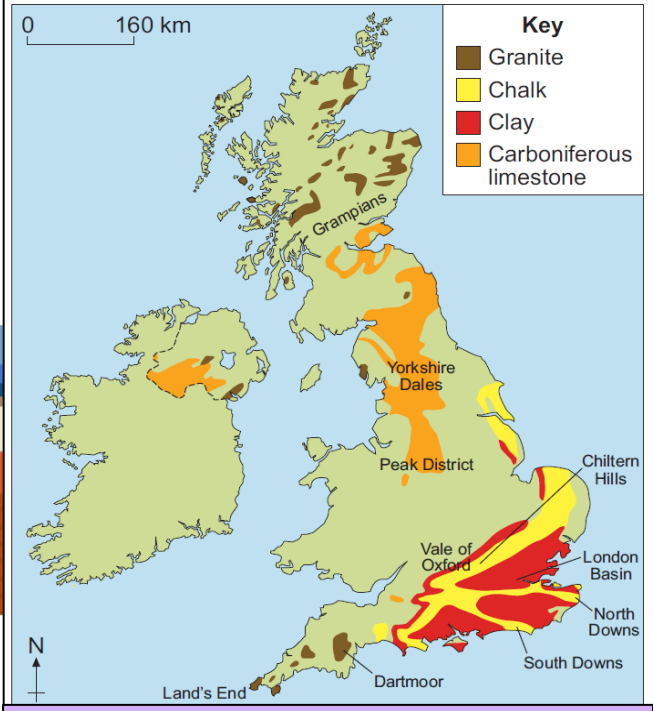
Extrusive igneous rock	**Metamorphic Rock**	**Magma**
Intrusive igneous rock	**Erosion**	**Carbonation**
Sedimentary Rock	**Weathering**	**Deposition**

How does freeze-thaw weathering take place?

www.internetgeography.net



Water enters cracks in the rock. Temperatures fall at night, causing water to freeze. When water turns to ice it expands by ten percent. This puts pressure on the rock, prising the crack apart. The ice melts, water seeps deeper into the crack and freezes again. Over a period of time large blocks of rock can be shattered by repeated freeze-thaw weathering.



In the UK, we have all three categories of rock. While you don't need to know where all the rocks are found (very complicated!), knowing some key locations where chalk, clay, granite and limestone are found would be very useful!

Chemical weathering is the breakdown of rock through changing its chemical composition. When rainwater hits rock it **decomposes** it or eats it away. This is known as **carbonation**. This occurs when slightly acidic (**carbonic**) rain or sea water comes into contact with **sedimentary rock,** such as limestone or chalk, it causes it to dissolve. A chemical reaction occurs between the acidic water and the calcium carbonate and forms calcium bicarbonate. This is **soluble** and is carried away in solution. **Carbonation weathering** occurs in warm, wet conditions.

Limestone pavement

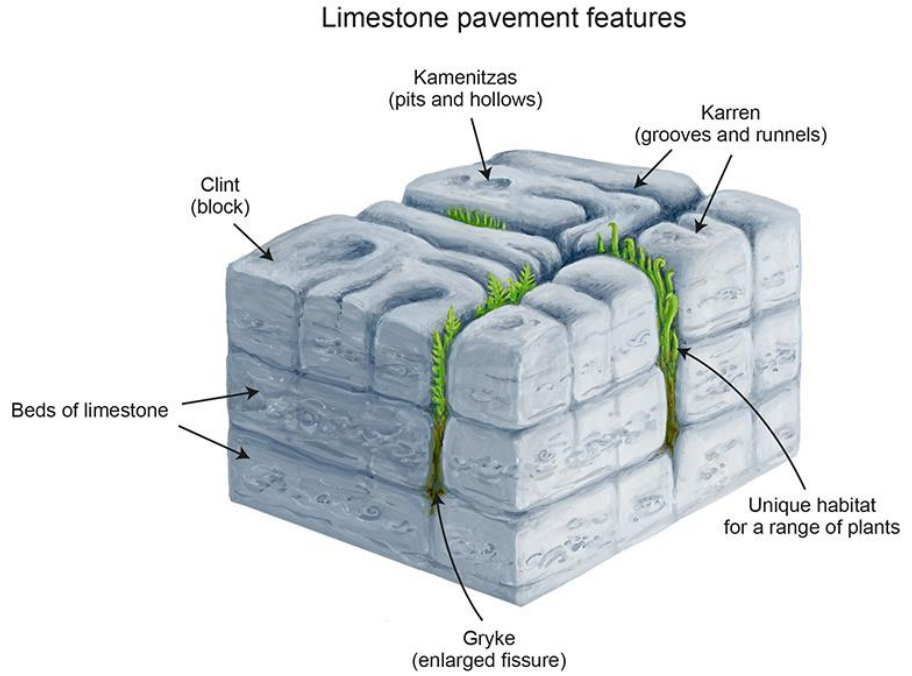
Is a flat expanse of exposed limestone formed by a combination of chemical weathering and erosion.

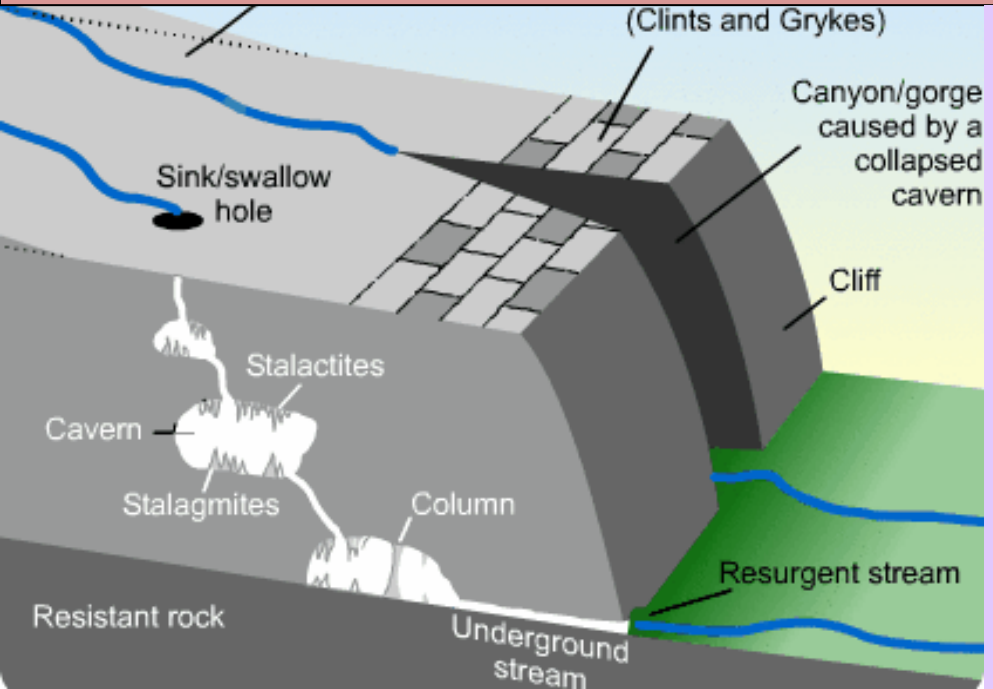
Clints and Grykes

- **Clints** are the blocks of limestone that form the pavement. They are chemically weathered so that their surface is covered by a series of pits and hollows (called karren).
- **Grykes** are fissures separating the clints in a limestone pavement. They may be well over a metre in depth, and formed when the joints in the limestone were widened by chemical weathering.

How do limestone pavements form?

During the last ice age, much of Britain was covered by ice sheets and glaciers. During this time the soil and weaker surface rocks were **scoured** away, leaving broad expanses of exposed limestone such as those at Malham, Yorkshire. With the retreat of the glaciers, a forest eventually established itself. Rain water that **percolated** through the soils and it became **acidic** and gradually **dissolved** the limestone surface. Under the soil, rain water picked out the joints in the limestone and gradually widened them by dissolving the rock. This created **deep fissures** called **grykes**. The blocks of limestone (the **clints**) were also attacked by the rain and small holes and **gulleys** formed on their surface, which are called **karrens**. The ice finally retreated about 12 000 years ago. The soil on the top of the limestone pavement was eroded, washed down into the **grykes** and removed altogether by the drainage system. This erosion has increased during the past few thousand years, first by forest clearance and later by agricultural pursuits. The exposed limestone pavements have been constantly **weathered chemically**, which further widens the **grykes** and deepens the **karren**.



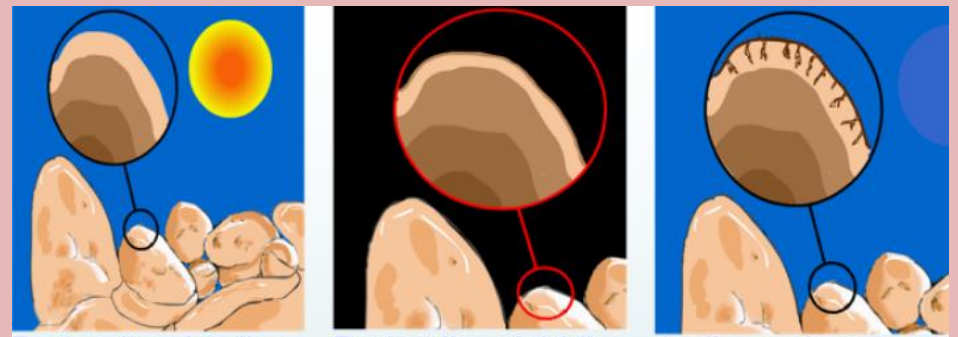


Limestone landscapes

The Yorkshire Dales are located in the North west of England where the underlying ground is principally carboniferous limestone rock

Malham in the Yorkshire Dales is famous for it's limestone scenery. One feature that is particularly prominent is the limestone pavement (shown below)

Onion skin weathering



During the day the sun heats up the surface of the rock causing the rock to expand.

During the night the rock cools down and contracts.

As the rock expands and contracts over and over again, small pieces of surface rock begin to flake and fall off.

Cave features

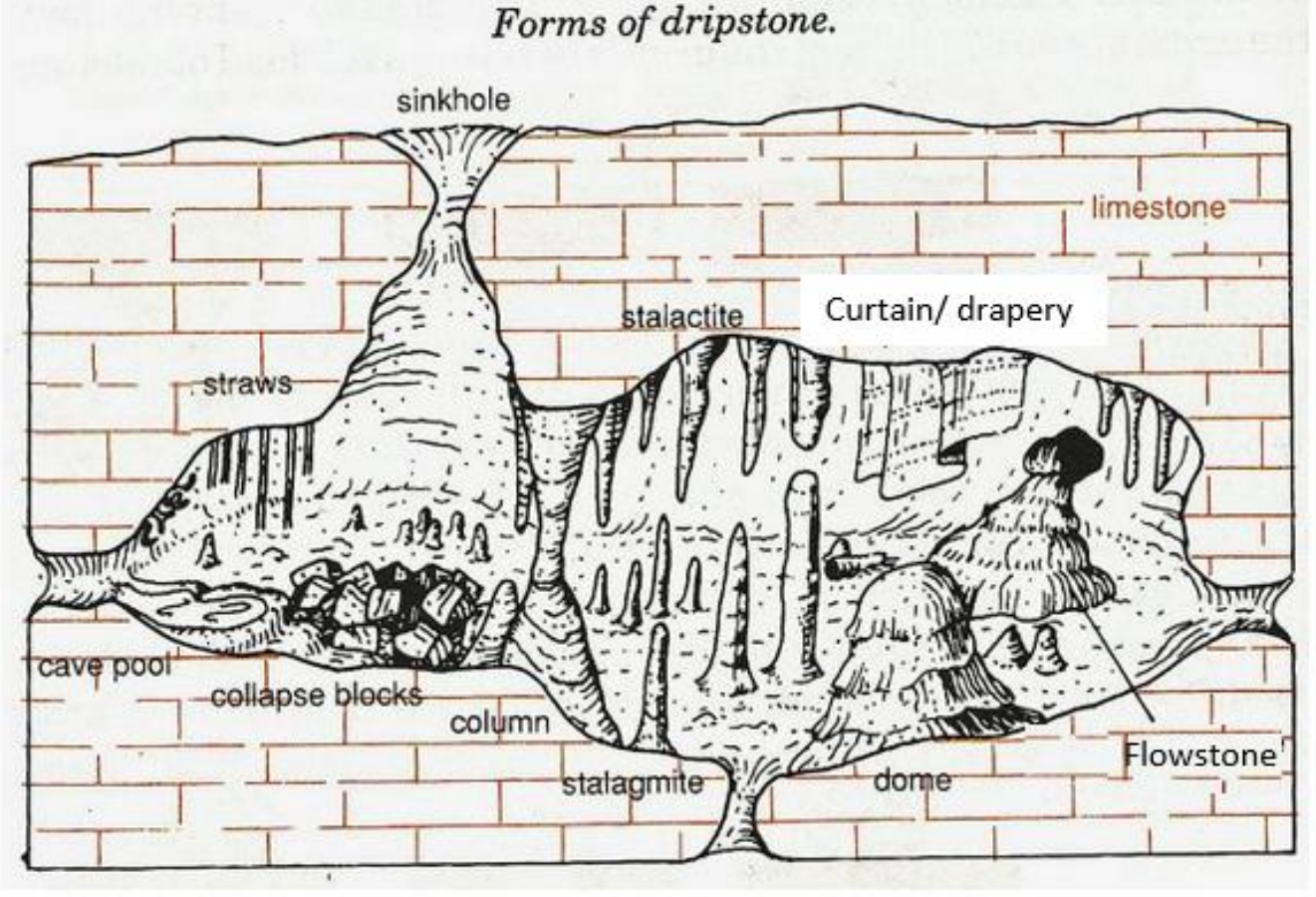
We can trace the words **stalactite** and **stalagmite** back to the Greek word "stalassein," which means "to drip." This is fitting because it describes how both are formed in nature.

Limestone caves, where most stalactites and stalagmites are found, are mainly composed of calcite, a common mineral found in **sedimentary** rocks. When rainwater falls over a cave and trickles through rocks, it picks up **carbon dioxide** and minerals from **limestone**. If we add water, carbon dioxide and calcium carbonate together, we get this equation:

H20 + CO2 + CaCO3 = Ca (HCO3)2

Ca (HCO3)2 is known as **calcium bicarbonate**, and the water carries the substance, basically dissolved **calcite**, through the cracks of the roof of a **cave**. Once water comes into contact with the air inside the cave, however, some of the calcium bicarbonate is transformed back into calcium carbonate, and calcite starts to form around the crack. As water continues to drip, the length and thickness of the calcite grows, and eventually a straw forms on the ceiling. If the end of the straw gets blocked up by calcite, the water then has to flow down the outside and the straw becomes a **stalactite**. It can take a very long time for most **stalactites** to form -- they usually grow anywhere at less than 1mm a year!

Of course, **stalagmites** don't just emerge from the ground. The water dripping from the end of a stalactite falls to the floor of a cave and deposits more calcite into a mound. Soon enough, a stalagmite will form in a cone like shape. This is why you usually find stalactites and stalagmites in pairs, and sometimes they'll even grow together to form one big **column**.



Key term	Definition
Flowstones	are composed of sheet-like deposits of calcite or other carbonate minerals, formed where water flows down the walls or along the floors of a cave.
Stalactite	A long, thin icicle shaped piece of limestone hanging from the ceiling of a cavern.
Stalagmite	A short, stumpy piece of limestone growing up from the floor of a cavern.
Swallow holes	natural depression on the surface of a limestone landscape eroded by chemical weathering (also called a pot hole).
Caverns	A natural underground space carved out by chemical weathering and running water.
Calcium Carbonate	The main chemical composition of limestone

Cheddar Gorge is a limestone gorge in the Mendip Hills, near the village of Cheddar, Somerset, England. The gorge is the site of the Cheddar show caves, where Britain's oldest complete human skeleton, Cheddar Man, estimated to be 9,000 years old, was found in 1903. Older remains from 12,000–13,000 years ago have also been found. The caves, produced by the activity of an underground river, contain stalactites and stalagmites. The gorge is part of a Site of Special Scientific Interest. The maximum depth of the gorge is 137 m, with a near-vertical cliff-face to the south, and steep grassy slopes to the north. The gorge itself was formed by meltwater floods during the cold periglacial periods which have occurred over the last 1.2 million years. During the ice ages, permafrost blocked the caves with ice and frozen mud and made the limestone impermeable. When this melted during the summers, water was forced to flow on the surface, and carved out the gorge. During warmer periods, the water flowed underground through the permeable limestone, creating the caves and leaving the gorge dry, so that today much of the gorge has no river until the underground Cheddar Yeo river emerges in the lower part from Gough's Cave. The gorge is susceptible to flooding. In the Chew Stoke flood of 1968, the flow of water washed large boulders down the gorge, damaging the cafe and entrance to Gough's Cave and washing away cars.

Cheddar Gorge, including the caves and other attractions, has become a major tourist destination. In a 2005 poll of Radio Times readers, following its appearance on the television programme Seven Natural Wonders (2005), Cheddar Gorge was named as the second greatest natural wonder in Britain, surpassed only by Dan yr Ogof caves. The gorge and all of it's combined attractions have in the past attracted about 500,000 visitors per year, but this number has fallen dramatically in the past two decades. Unfortunately, as a result of the COVID-19 crisis in 2020, the show caves, museum and associated attractions have been shut indefinitely, with the direct loss of 30 jobs and the indirect loss of many more in the town as a result of reduced visitor numbers. You can, however, still walk around the top of the Gorge.

The south side of the gorge is owned and administered by the Longleat Estate. The cliffs on the north side of the gorge are owned by The National Trust. Every year, both of the gorge's owners contribute funds towards the clearance of scrub, bush and trees from the area, to reduce the risk of rockfall caused by erosion, and to allow climbers access to the rock faces. Most of the commercial visitor activity in the gorge is on the Longleat-owned south side, including access to the two main commercial show caves and the visitor centre. Visitors to the show caves alone have decreased from 400,000 a year in the 1980s to 150,000 in 2013. As a result, the Longleat Estate had in recent years been looking into what new attractions could be developed in the area to rejuvenate the area. Proposals made formally, were opposed by the National Trust.

Source 2 – an extract from 'Managing Cheddar Gorge and the Mendips' by Garrett Nagle

"Nearly 500,000 people a year visit the caves at Cheddar Gorge, while nearby Bath is the second most popular city for tourists to visit in the UK. Visitors to the attractions created by Mendip Limestone brings about £25 million a year into the area. Many of the attractions in Cheddar Gorge are operated by the Cheddar Gorge and Caves company which includes 300 acres of land, 50 caves and the whole of the south side of the gorge."

Source 1 – site map of the existing attractions in the gorge

Source 3 – an extract from www.cheddargorge.co.uk

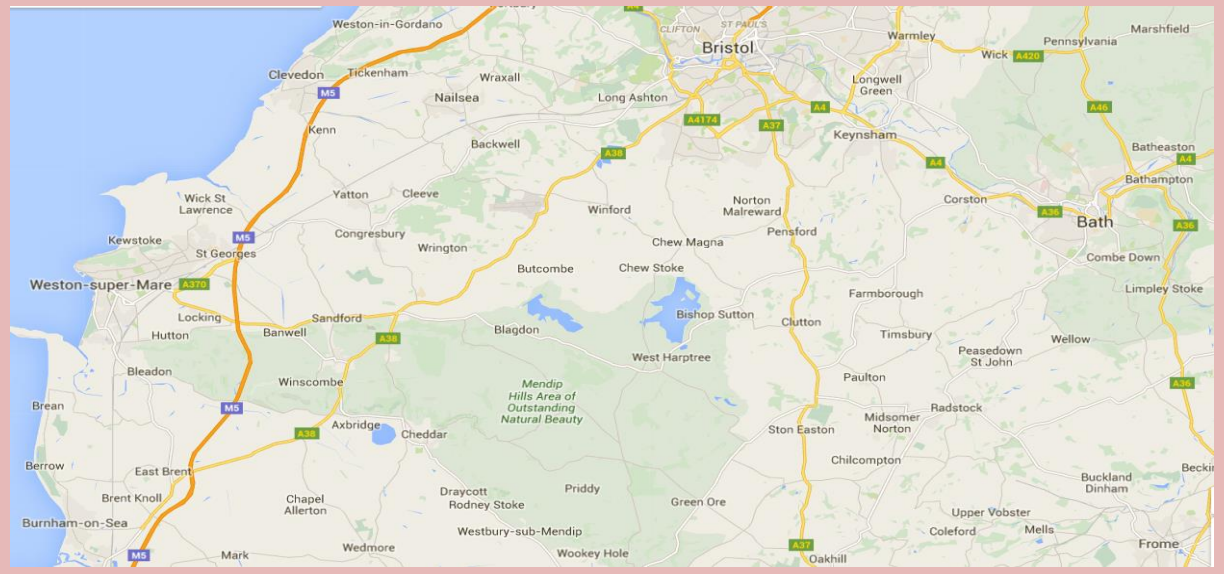
"Longleat Estate is currently considering a range of potential regeneration projects at Cheddar Gorge, with the aim of creating a significant new visitor attraction for the area. Such a project would need to help support ongoing conservation work and make the Gorge more accessible to all visitors. It could also provide an educational resource and bring significant economic benefits to local businesses and employers."

Source 4 – an extract from 'Tourism, Leisure and Recreation' by Garrett Nagle

"Cheddar Gorge in the Mendip Hills of Somerset is a tourist 'honeypot'. It is an excellent example of rugged relief (terrain) about which there is a conflict of interest. Tourist related businesses want to bring more visitors into the area, whereas mining companies want to continue to quarry the limestone. Many residents and environmentalists want to preserve the unique landscape of gorges, caves …and other spectacular limestone scenery, as well as unusual plants and birds."

Source 5 – a satellite image of Cheddar, the Gorge and some of the local quarries

Source 6 – a map of the area



Source 7 – an extract from a consultation paper looking at the future of Cheddar Gorge

"A Gorge walk takes approximately 1.5 hours, 4 hours if combined with cave visit. We estimate around 10% of visitors climb Jacob's Ladder with just 2% reaching the top. Numbers have declined and tend to be at certain times of day (usually 11am-4pm) resulting in shorter trading hours. New investments would be aimed at extending the options available and time visitors spend in the area. …Currently local businesses are reluctant to extend their leases. If the new attraction increases visitors to the area they are likely to use/support local businesses as well."

Source 8 – A council document on quarrying in the area

"At one time there were 40 large quarries open in the Mendip Hills. Of these, 16 are still active and about 6% of all limestone in the area has been quarried. The value of the 300 million tonnes taken out so far is about £1.4 billion at current prices. Sales every year are worth about £43 million. However, with only two quarries served by the railway, there are up to 3000 lorries snaking their way through narrow country lanes every day."

Christianity

Eucharist

Why is the Eucharist important?
The Eucharist is a special service taken by all Christians. It may vary between different denominations and be called slightly different names, but it is generally the same. In the service the preacher will give bread and wine to the congregation which represents Jesus' blood and body. It is a service to remember Jesus' sacrifice that he gave to man (**atonement**), dying for their sins. It shows Christians devotion and love for God and Jesus Christ.

Why does the Eucharist come from?
The Eucharist comes from what happened at the Last Supper in Holy Week. When Jesus knew he would be have to die, he wanted his disciples and followers to remember his sacrifice so they can connect with God and have salvation (eternal life with God in heaven). At the last supper Jesus had said **"Take, eat; this is My body which is broken for you; do this in remembrance of Me."** In the same manner he also took the cup after supper, saying, "This cup is the new covenant in My blood. Do this, as often as you drink it, in remembrance of Me."

Key vocabulary
Eucharist
Holy Communion
Holy mass
Atonement
Salvation
Pilgrimage

Why do Christians go on pilgrimage?

- To follow the footsteps of Jesus e.g. to Jerusalem
- To visit a sacred place e.g. place of Jesus or a disciple / saint
- For healing – physical or spiritual
- To break from normal life and focus on God
- To reflect on their life
- To connect with God
- For forgiveness of sins
- To meet other Christians
- To connect with Christian communities around the world

The Shell emblem of the Santiago de Compostela pilgrimage

What happens at the Eucharist?

Some Christians call the Eucharist Holy Mass or Holy Communion. At a Catholic Eucharist the bread and wine are blessed at the Altar and a Eucharist prayer is read. The wine is passed around in a chalice. While at a protestant Eucharist the wine or non-alcoholic alternative is passed in small cups, the story of the last supper is read.

Example of a Pilgrimage: Santiago de Compostela.

Santiago is the local Spanish name for Saint James. James was one of the 12 disciples of Jesus. According to legend, the remains of St James were carried by boat from Jerusalem to northern Spain where he was buried on what is now the city of Santiago de Compostela.

Today, thousands of Christian pilgrims travel a pilgrimage route to Santiago de Compostela. Most travel by foot, some by bicycle and a few travel, as some of their medieval forbears did, on horseback or by donkey. It takes 35 days to walk the 500 miles. Many of the pilgrims wear cockle-shell badges and this is the emblem of pilgrims to Santiago.

Churches

What are churches used for in the community?

- Regular Worship
- Special services - Christmas, Easter, baptism, Eucharist, Weddings, funerals
- Social activities e.g. scouts/guides, coffee mornings
- Help for different groups e.g. Mother and baby groups, meals for the elderly
- Charity and fund raising events
- Music concerts

BVT: Christianity

Key vocabulary

Altar
Preacher
Font
Pulpit
Lectern
Stained glass window

The Lectern (right):

- Usually a wooden stand which hold the bible
- The preacher reads the bible from here
- Sometimes this is of an eagle, which symbolises different things; one of which is the eagle flying and spreading the words of Jesus.

Church features

An Altar:

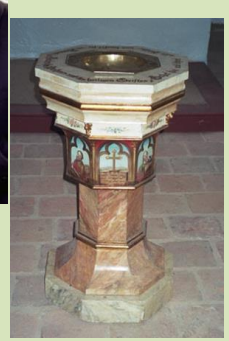
- The table at the front of the church.
- Holds the bread and wine for Eucharist

The Pulpit:

- A wooden stand at the front to one side in the church
- Where the preacher stands to give his sermon
- The preacher can connect and speak to his congregation

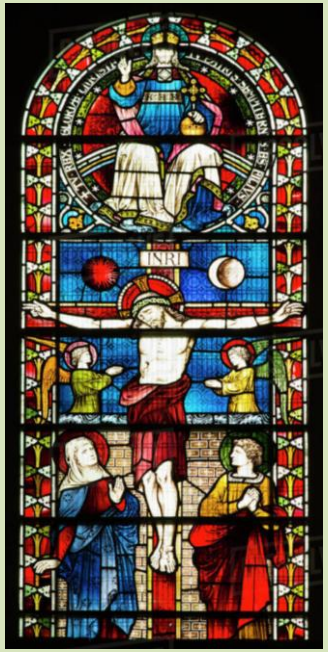
The Font:

- The basin that is filled with Holy water used for baptism
- Usually by the door of the church – as when you are baptised you are welcomed into the Christian church community



Stained Glass Windows:

- These were traditionally used to show stories and messages from the bible as not everyone could read.
- Now they are a way to decorate the church and still elaborate on stories from the bible



SCAN ME

Christianity

The work of Christians around the world

The Christian church helps in different ways around the world. It helps fight against poverty, conflict, discrimination and persecution and supports Christians and non-Christians, inspired by the teachings of Jesus.

Key vocabulary

Charity
Peace
Discrimination
Persecution
Apartheid

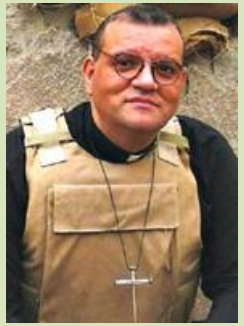
Christian Teachings that inspire helping others

These are different quotes from Jesus, the bible or Jesus' parables

- "Love thy neighbour" Jesus
- "Let's not love with words but with actions" Bible
- "Blessed are the peacemakers" Jesus
- "For I was hungry and you gave me something to eat. I was thirsty and you gave me something to drink". Bible
- "Neither Jew nor Greek, make nor female you are all one in Jesus Christ" Bible
- The parable of the Widows Offering and The Good Samaritan.

Helping against discrimination

Martin Luther King was a black Christian preacher. Black Americans were being **discriminated** against so King led the **Civil Rights movement**. This started when a black lady called **Rosa Parks** refused to move seats on a bus.
King was special because all his protests were peaceful, as he was a peaceful Christian who promoted Jesus' idea of equality. He led and encouraged people to take part in **marches,** he gave **speeches** and many people followed him. He managed to change some important laws to help black American including the right for them to **vote.**



Christian Charities

Christian Aid

Christian Aid works by helping **poorer countries** and countries when they face **natural disasters** like floods or earthquakes.

1. Giving emergency aid which is immediate help that is needed after a disaster e.g. clean water and food
2. Setting up **projects** in poverty areas such as **clean water projects or health projects**.

Christian Aid gets money from our **government and companies but also individuals** too. There is a **Christian Week** where fund raising goes on and you may get an envelope through your door to give money to help.

Church Army

- The Church Army provide support and help to the vulnerable people in the UK.
- They work with the elderly, prisoners, people in hospitals and drug addicts.
- They use the teachings of Jesus to spread love and kindness, helping others and giving them comfort and hope using their faith.

Working for peace

The Vicar of Baghdad

Andrew White, nicknamed the Vicar of Baghdad as he works in the **Middle East** (where Baghdad is). He provides support and help for people living in the Middle East, where there has been wars such as the Iraq war, wars in Palestine and Afghanistan. The Vicar of Baghdad's main aim is to work with the **different religious leaders to create peace** between them. He sees his role as being a mediator – someone that talks between 2 groups that are not getting on. This work is important because if he can work towards **encouraging peace**, the lives of ordinary people will improve.

Origins of Judaism

Judaism was started about 4,000 years ago by a man called **Abraham**.

God spoke to Abraham and Abraham knew that there was only one true God. God told Abraham to go to his promised land; a place called Canaan (now Israel). God told him that he and his family would be blessed.

God said "Leave your country…. I shall make you a great nation… I shall bless those that bless you".

- Anyone that followed Abraham and God would blessed and protected. These were Gods **chosen people**.
- God gave them his promised **Holy land**.
- In return they followed his commandments.
- This agreement is called the **covenant**.

God said that Abraham's faith to God would be tested 10 times. The first test was when he had to leave him home (above).

The final and greatest test was when God asked Abraham to **sacrifice** his son Isaac as an offering to him. Both Abraham and Isaac were willing for God, but just before Abraham was going to kill him, God intervened and stopped him. A ram was sacrificed and given to Abraham instead.

They had passed God's test. This showed Abraham's loyalty and dedication to God.

BVT: Judaism

Key vocabulary

Israelite
Covenant
Mount Sinai
Plagues
Pharaoh
Commandment
Holy Land
Abraham
Canaan

Abraham's sacrifice of Isaac

Moses parting the Red Sea

Moses

1,000 years had passed since Abraham. Abraham's descendants were called the Israelites and they had spread to many countries.

In Egypt the Pharaoh saw the Israelites as a threat and made the Israelites his slaves. He ordered all Israelite slave baby boys to be killed.

The story of Moses is a teaching to show how one man was chosen by God to free his promised people.

This is how this happened:

- God appeared to Moses in the flames of a fire in a burning bush and said "You shall tell the Pharaoh that I am the only God and shall lead the Israelite slaves out of Egypt to freedom".
- Moses was scared but went to tell the Pharaoh that he should free the Israelite slaves, but the Pharaoh said no.
- Moses used the power of God to send **10 plagues** to the Egyptians: some of these include the plagues of frogs, locusts, darkness, killing cattle, flies.
- But it was the last plague that was the worst. The first born son of every Egyptian was to be killed.
- After this plague the pharaoh was so angry, but allowed Moses to lead the Israelites out of Egypt. But the Pharaoh's soldiers chased them. They came to the Red Sea, **Moses parted the sea** so the Israelites could be free. Moses said "Fear not, stand your ground… the Lord himself will fight for you".
- Moses and the Israelites spent 40 days together in the desert and on top of Mount Sinai and God gave Moses "…the two tablets of the covenant law, the tablets of stone inscribed by the finger of God made a promise to God". This was the promises of the **10 commandments**.

Jewish Festivals

Hannukah

History:

- 2,200 Years ago the Jewish people lived in their Promised Land. However at this time the Greeks wanted to increase their empire.
- Greek King **Antiochus** invaded the Promised Land; banned the Jews worshipping their God and banned them reading their Holy Book the **Torah**. Many Jews were killed.
- The Greek army smashed up the religious temple in Jerusalem, including a sacred lamp in the temple and the oil needed to brunt the lamp.
- A family called the **Maccabees** stood up against the Greek army. They beat them and marched back to Jerusalem.
- A new lamp was found and lit, however they only had enough oil for one day. A miracle from God allowed the oil to last 8 days, giving the Jews light in their holy temple.

Key vocabulary

Pesach
Seder plate
Hannukah
Maccabees
Menorah Candle
Antiochus
Menorah
chametz
Matzah

Festival of Light

Hannukah is therefore named the Festival Light for the lamp burnt for 8 days.

Jews celebrate this festival by coming together as a family, with friends and sharing special food; one is called **sufganiyot** (like donuts) and play games using a **Dreidel**.

The candle that is lit every one of the 8 days in remembrance is called the **menorah.**

sufganiyot

Pesach (Passover)

The main Jewish festival which takes place in April (but moves, like Easter). It celebrates **Moses freeing the Israelites.**
The Jewish home is cleaned of any food containing flour/wheat etc, this is called **chametz**. Special foods are bought, prepared and eaten.

The leader of the house wears white linen robes to signify freedom. He reads the story of Moses freeing the Israelites, from a book called the **Haggadah**, before the special meal. The special meal contains certain foods. These foods are placed on the **Seder plate** and have special meaning. E.g. the bone represents God's mighty arm helping them. 10 drips of wine are split, one for each plague. Special bread called **Matzah** is also eaten.

Matzah bread

Dreidel

Seder Plate

Où habites-tu?
(Where do you live?)

J'habite
(I live)

dans
(in)

un
(a)

joli
(pretty)

bel
(beautiful)

ancien
(old)

moderne
(modern)

appartement

une
(a)

jolie
(pretty)

belle
(beautiful)

ancienne
(old)

moderne
(modern)

maison
(house)

dans un bâtiment ancien
(in an old building)

dans un bâtiment moderne
(in a modern building)

dans le centre
(in the centre)

dans la banlieue
(n the suburbs)

à la campagne
(in the countryside)

à la montagne
(in the mountains)

sur la côte
(on the coast)

un village

une ville
(a town)

une grande ville
(a big town)

dans le nord *(in the north)*

dans le sud*(in the south)*

dans l'est *(in the east)*

dans l'ouest *(in the west)*

de l'Écosse *(of Scotland)*
de la France *(of France)*
du Pays de Galles *(of Wales)*
de l'Angleterre *(of England)*
de l'Irlande *(of Ireland)*
des États-Unis *(of the USA)*

J'aime
(I like)

Je n'aime pas
(I don't like)

habiter ici *(living here)*

parce que
(because)

car
(because)

c'est
(it is)

bruyant *(nosiy)*
tranquille *(quiet)*
intéressant *(interesting)*
ennuyeux *(boring)*
joli *(pretty)*

Dans ma maison

Dans ma maison
(in my house)
Dans mon appartement
(in my apartment)
En haut
(upstairs)
En bas
(downstairs)

il y a *(there are)*

deux (2)
trois (3)
quatre (4)
cinq (5)

pièces en tout *(rooms in total)*
chambres *(bedrooms)*
salles de bains *(bathrooms)*

Ma pièce préférée est *(my favourite room is)*
Mon endroit préféré est *(my favourite place is)*

J'aime *(I like)*
Je n'aime pas *(I don't like)*

manger *(to eat)*
me détendre *(to relax)*
travailler *(to work)*
lire *(to read)*
passer du temps *(to spend time)*

dans *(in)*
sur *(on)*

ma chambre *(my room)*
la cuisine *(the kitchen)*
le jardin *(the garden)*
la salle de bains *(the bathroom)*
la salle à manger *(the dining room)*
le salon *(the lounge)*
la terrasse *(the terrace)*

¿Dónde vives?
(Where do you live?)

Vivo
(I live)

en
(in)

un piso (a flat)	bonito *(pretty)* feo *(ugly)* antiguo *(old)* moderno *(modern)*	en un edificio antiguo *(in an old building)* en un edificio moderno *(in a modern building)* en el centro *(in the centre)* en las afueras *(n the suburbs)* en el campo *(in the countryside)* en las montañas *(in the mountains)* en la costa *(on the coast)*
una casa (a house)	bonita *(pretty)* fea *(ugly)* antigua *(old)* moderna *(modern)*	
una aldea *(a small village)* un pueblo *(a town)* una ciudad *(a big town)*	en el norte *(in the north)* en el sur *(in the south)* en el este *(in the east)* en el oeste *(in the west)*	de Escocia *(of Scotland)* de Francia *(of France)* de Gales *(of Wales)* de Inglaterra *(of England)* de Irlanda *(of Ireland)* de los Estados Unidos *(of the USA)*

Me gusta *(I like)* No me gusta *(I don't like)*	vivir aquí *(living here)*	porque *(because)* ya que *(because)*	es *(it is)*	ruidoso *(noisy)* tranquilo *(quiet)* interesante *(interesting)* aburrido *(boring)* bonito *(pretty)*

En mi casa *(in my house)* **En mi piso** *(in my apartment)* **Arriba** *(upstairs)* **Abajo** *(downstairs)*	**hay** *(there are)*	**dos** (2) **tres**(3) **cuatro** (4) **cinco** (5)	**habitaciones en total** *(rooms in total)* **dormitorios** *(bedrooms)* **cuartos de baño** *(bathrooms)*
Mi habitación favorita es *(my favourite room is)* **Mi lugar favorito es** *(my favourite place is)*			**mi dormitorio** *(my room)* **la cocina** *(the kitchen)* **el jardín** *(the garden)* **el cuarto de baño** *(the bathroom)* **el comedor** *(the dining room)* **el salón** *(the lounge)* **la terraza** *(the terrace)*
Me gusta *(I like)* **No me gusta** *(I don't like)*	**comer** *(to eat)* **relajarme** *(to relax)* **trabajar** *(to work)* **leer** *(to read)* **pasar tiempo** *(to spend time)*	**en** *(in/on)* 	

THE FORMAL ELEMENTS

LINE

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


TONE

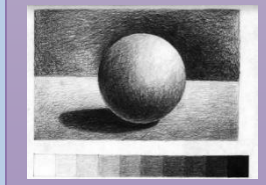
TONE means the lightness or darkness of something. This could be a shade or how dark or light a colour appears.



SHAPE/FORM

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

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




TEXTURE

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



COLOUR

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

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


PATTERN

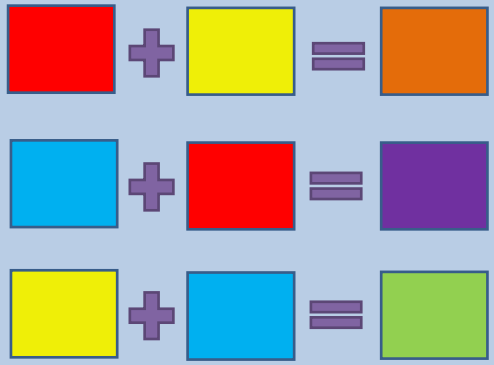
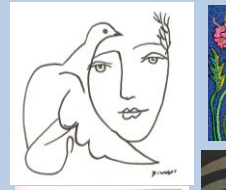
PATTERN is a design that is created by repeating **LINES**, **SHAPES**, **TONES** or **COLOURS.**

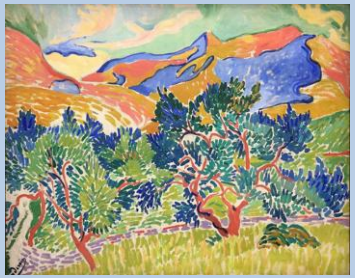
Patterns can be manmade or natural.


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…

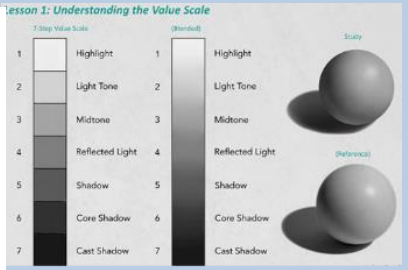



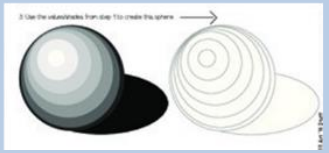
Artists you could research:
- Pablo Picasso
- Sonia Delaunay
- Vincent Van Gogh
- Henry Moore
- Henri Matisse
- Angie Lewin
- Yayoi Kusama

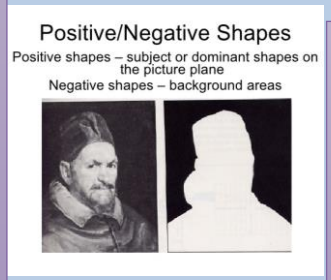
The Fundamentals of Art

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

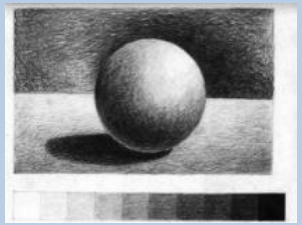
OPTIONAL EQUIPMENT:
- DRAWING PENS
- WATERCOLOUR SET
- WATERCOLOUR PENCILS
- PAINTBRUSHES







TALKING ABOUT ART:
- What are you looking at?
- How was it made?
- Who made it?
- How will it inspire your work?
- Do you like it or dislike it? Why?



Techniques you will explore:
- Observational drawing
- Experimental drawing
- Mono-printing
- Poly-printing
- Extending the frame
- Painting
- Collage
- Colour theory
- Photography

COLOUR	LINE	SHAPE/FORM/SPACE	PATTERN AND TEXTURE	TONE
BRIGHT	FLUENT	CLOSED	REPEATED	BRIGHT
BOLD	CONTINUOUS	OPEN	UNIFORM	DARK
VIBRANT	CONTROLLED	DISTORTED	GEOMETRIC	FADED
PRIMARY	LOOSE	FLAT	RANDOM	SMOOTH
SECONDARY	POWERFUL	ORGANIC	SYMMETRICAL	HARSH
TERTIARY	STRONG	POSITIVE	SOFT	CONTRASTING
RADIANT	ANGULAR	NEGATIVE	IRREGULAR	INTENSE
VIVID	FLOWING	FOREGROUND	UNEVEN	SOMBRE
DULL	LIGHT	BACKGROUND	ROUGH	STRONG
CONTRASTING	DELICATE	COMPOSITION	BROKEN	POWERFUL
COMPLIMENTARY	SIMPLE	ELONGATED	GRID	LIGHT
HARMONIOUS	THICK	LARGE	FLAT	MEDIUM
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				

ARTIST

ATTITUDE
Be positive and try your best!

RESPECT
Respect others, work and the room

THINK
Understand and demonstrate.

IMAGIINE
Be creative, use you imagination!

SPOTLESS
Tidy up after yourself.

TARGET
Follow directions.

The Formal Elements In Art

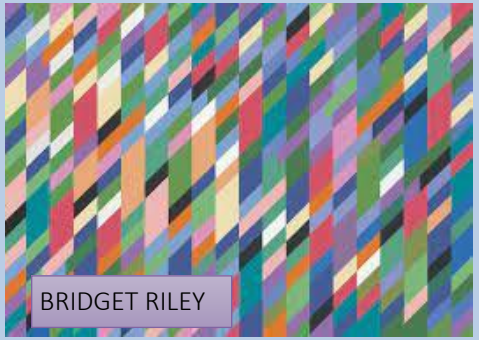

EDVARD MUNCH


HENRI MATISSE

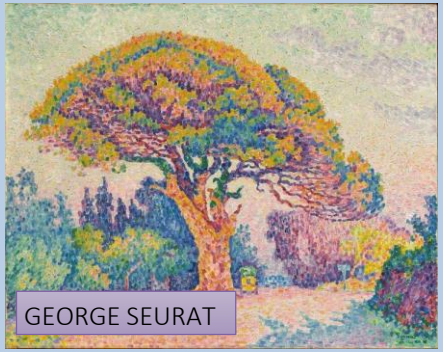

FRIDA KAHLO

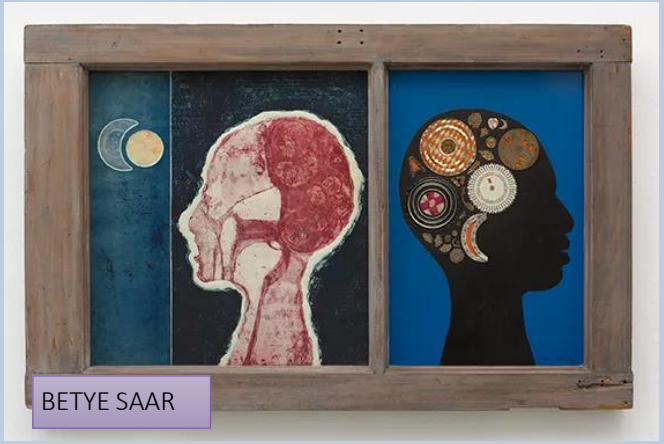

WASSILY KADINSKY

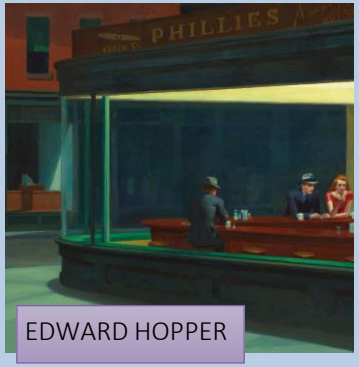

BANKSY


BRIDGET RILEY


VINCENT VAN GOGH


GEORGE SEURAT


BETYE SAAR



EDWARD HOPPER

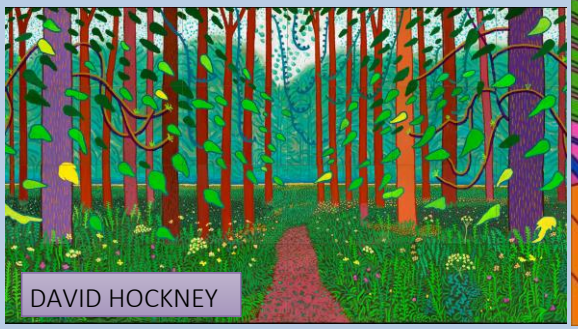

ALBRECHT DURER


MICHAEL CRAIG MARTIN


ANDY WARHOL


BARBRA HEPWORTH

RENEE MAGRITTE


DAVID HOCKNEY

Year 7 Music

Rhythm and Pulse (Tempo) are two of the most important Elements of Music. During this project we will investigate, compose and perform awesome global rhythmic masterpieces! Plus, we will:

- **Understand how pulse is a fundamental element upon which music is built and performed.**
- **Develop a feeling for and an awareness of rhythmic styles in music from different times and places.**
- **Distinguish between pulse/tempo and rhythm.**
- **Develop and understanding of note values in terms of duration, bars and simple time signatures.**

Drop Some Drums
By
[Love] Tattoo

Listen for....
Gradual build up of textures (layers). Once playing, the instrument rhythms don't change. This is a great example of **OSTINATO!** Once all instruments are in (and there are a lot!) the texture begins to reduce again.
This music uses mostly untuned **PERCUSSION** SAMBA instruments along with plenty of music tech. to make a really exciting track! Check out the drop at 5.43!

D Dynamics
(volume)

R Rhythm
(order of Musical Events)

P Pitch
(Highness or Lowness of a note)

S Structure
(how the composition is built)

M Melody
(the tune)

I Instrumentation
(instruments used when composing)

T Tempo
(the speed of the Music)

H Harmony
(This supports the melody)

Watch and Listen

FOLI!

Foli" is the word used for rhythm by the Malinke tribe in West Africa. But Foli is not only found in Malinke music, but in all parts of their daily lives. Watch this film. It gives you a glimpse inside their culture of rhythm. As the Malinke man says, "Tous les choses, c'est du rythme." ("Everything is rhythm.")

Kodo - "O-Daiko"
Japanese Taiko Drumming.

Listen for....

Use of untuned percussion. The most amazing use of **DYNAMICS** and **OSTINATO**. Co ordination between just 3 musicians. Taiko drumming is both physical and brilliantly theatrical! The use of silence is really effective in this piece!

I've Got Rhythm

Exploring Rhythm and Pulse

A. Key Words

PULSE – A regular **BEAT** that is felt throughout much music. Certain beats of the pulse can be emphasised to establish regular pulse patterns *e.g.*

1 *2 3 4,* ***1*** *2 3 4 = a 4-beat pulse*

1 *2 3,* ***1*** *2 3 = a 3-beat pulse (often called a* ***WALTZ****)*

1 *2,* ***1*** *2,* ***1*** *2 = a 2-beat pulse (often called a* ***MARCH****)*

RHYTHM – A series of sounds or notes of different lengths that create a pattern. A rhythm usually fits with a regular pulse. Everyday sentences can be used to create rhythms. The patterns made by words create rhythms and this rhythm has a 4-beat pulse:

Music is my favourite

ACCENT – Emphasising or stressing a particular note or notes. Accents affect the **ARTICULATION** and are shown with this symbol >

DURATION – The length of a sound – *long/short*

TEMPO – The speed of a sound or piece of music – *fast/slow*

TEXTURE – Layers of sound or how much sound is heard – *thick/thin*

STRUCTURE – The organisation of sound or how sounds are ordered

SILENCE – The absence of sound or no sound, shown in music by **RESTS**.

RHYTHM GRID NOTATION – A way of writing down and recording rhythms using boxes

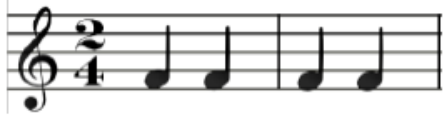
B. Time Signatures

A **TIME SIGNATURE** tells us how many beats (and what type of beats) there are in each **BAR** of music and is made up of two numbers at the beginning of a piece of music.

Top Number = **HOW MANY BEATS**

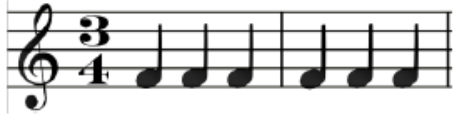
Bottom Number = **TYPE OF BEAT**

2/4 = **TWO CROTCHET** beats per **BAR**



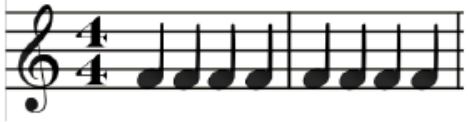
e.g. a ***MARCH***

3/4 = **THREE CROTCHET** beats per **BAR**



e.g. a ***WALTZ***

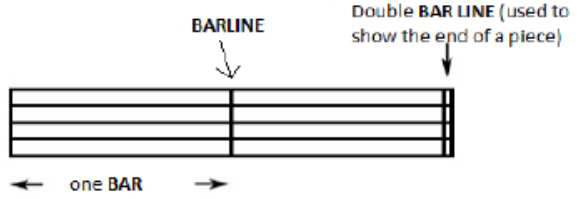
4/4 = **FOUR CROTCHET** beats per **BAR**



Bottom Numbers:

2 = Minim 4 = Crotchet 8 = Quaver

BARS AND BARLINES



C. Ostinatos, Cyclic and Polyrhythms

RHYTHMIC OSTINATO – a short repeated pattern made up of notes of different lengths but without a particular pitch.

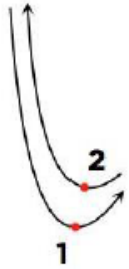
CYCLIC RHYTHM – a rhythm which is repeated over and over again (in a cycle) many times.

POLYRHYTHM - the use of several rhythms performed simultaneously, often overlapping to create a thick, **POLYRHYTHMIC TEXTURE**. A common polyrhythm often used in Latin-American and African Music is to play a 3-beat and 2-beat rhythm simultaneously as shown below. This is called a "3 against 2 Polyrhythm"

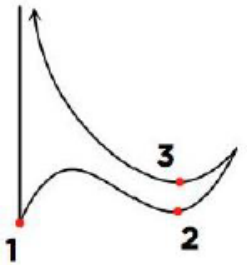
3 beat rhythm	X		X		X		X		X		X	
2 beat rhythm	X			X			X			X		

D. Conducting Pulses and Beats

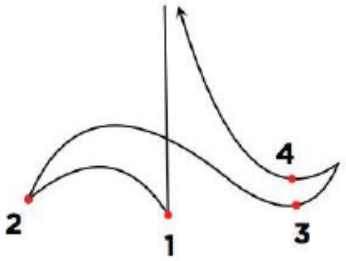
Conducting a 2-beat Pulse/Beat *(e.g. a March)*



Conducting a 3-beat Pulse/Beat *(e.g. a Waltz)*



Conducting a 4-beat Pulse/Beat



E. Note Values - Note Names, Symbols and Duration

Note Name	Note Symbol	Note Value
Semibreve		4 beats
Minim		2 beats
Crotchet		1 beat
Quaver		½ of a beat
Pair of Quavers		2 x ½ beats = 1

I've got Rhythm

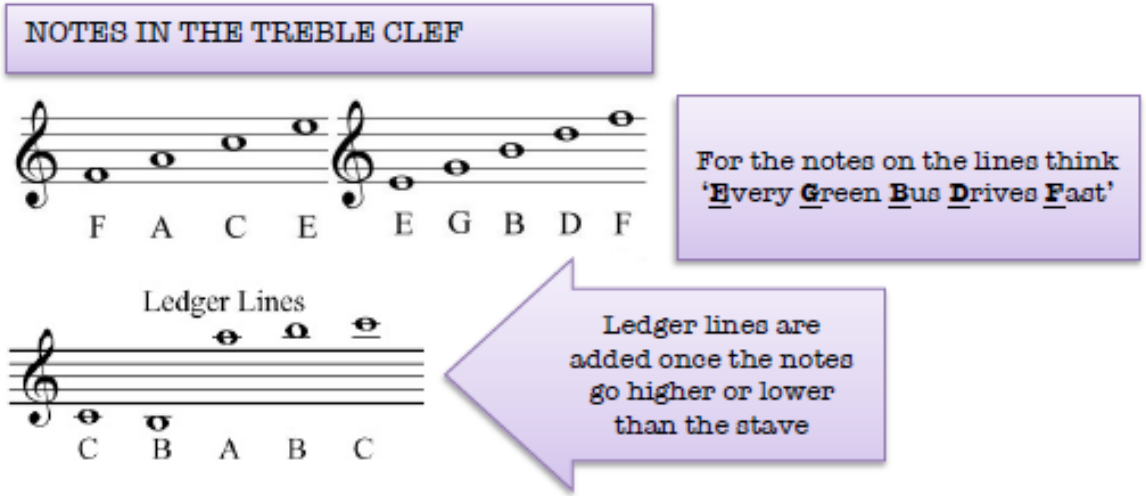
Exploring Rhythm and Pulse

Year 7 Music

This project will help you to develop your knowledge and understanding about orchestral instruments and families/sections found in the orchestra and how composers use the different musical colours (timbre) of the instruments in their creative process.

- **You will learn about the layout and structure of the symphony orchestra.**
- **You will develop an understanding of musical instruments and how they are played, the families/sections, construction , different sound production methods and characteristic timbres/sonorities.**
- **You will perform on orchestral instruments (if possible) or use orchestral tones/voices/sounds from keyboards as part of a 'class orchestra' with an awareness of the experience of 'performing together' as an ensemble and the roles of different instrumental parts and textural layers on the music as a whole.**
- **You will learn about the origins and uses of fanfares.**

Listen to the 'Young Persons' Guide to the Orchestra' with the BBC Symphony Orchestra. Here you will find the orchestra broken right down to show you how it works!!



Orchestra Families					
Strings		**Brass**	**Woodwind**	**Percussion**	
Bowed *(arco)*	**Plucked** *(pizzicato)*			**Tuned**	**Untuned**
Violin	Harp	Trumpet	Piccolo	Piano	Bass Drum
Viola	Harpsichord	French Horn	Flute	Xylophone	Snare Drum
Cello		Trombone	Oboe	Glockenspiel	Cymbals
Double Bass		Tuba	Clarinet	Timpani	Triangle
			Bassoon		Gong

Sonority City

Exploring Instruments of the Orchestra

Sonority City

Exploring Instruments of the Orchestra

A. Strings Section/Family

Made from wood and have strings. They are usually played with a **BOW** (**ARCO**) – not the Harp *(shown right)* but can also be **PLUCKED** (**PIZZICATO**). The smaller the instrument, the **HIGHER PITCHED** it is. The bigger the instrument, the **LOWER PITCHED** it is. However, the Harp has many more strings so can play both high- and low-pitched notes.

B. Woodwind Section/Family

A selection of instruments divided into two subsections: **FLUTES** (create a sound by air passing over a small hole and include the Flute and Piccolo) and **REEDS** (use a piece of bamboo reed to create a vibration). The Saxophone *(shown above right)* is not traditionally used in an orchestra. However, some modern composers have included it.

C. Brass Section/Family

There are more brass instruments used in brass bands, but the orchestra normally has four. They are made of metal and the sound is made by blowing into the mouthpiece by buzzing the lips in a similar way to blowing a raspberry! The bigger the instrument, the lower the pitch. The smaller the instrument, the higher the pitch – the Trumpet is the highest.

D. Percussion Section/Family

Includes a vast range of instruments which produce sound when *hit, struck, scraped or shaken*. These fall into two subsections: **TUNED PERCUSSION** (able to play different pitches) and **UNTUNED PERCUSSION** (*e.g. drums)*

TUNED PERCUSSION

Piano Xylophone Glockenspiel Timpani

UNTUNED PERCUSSION

Bass Drum Snare Drum Cymbals Woodblock Guiro

Triangle Gong Tambourine Cabasa Maracas

E. Key Words

ORCHESTRA – A large **ENSEMBLE** (group of musicians) divided into four **SECTIONS** or **FAMILIES** of musical instruments – **STRINGS, WOODWIND, BRASS** and **PERCUSSION** - led by a **CONDUCTOR** who stands at the front of the orchestra and directs it. They will indicate the main beats in the music using a **BATON** (a "stick" that they hold and beat time with). All musicians look at the conductor whist playing as they are ultimately in control of the whole piece.

SONORITY (also called **TIMBRE**) – Describes the **unique sound or tone quality** of different instruments and the way we can identify orchestral instruments as being distinct from each other – "each instruments' own unique sound". Sonority can be described by many different words including – *velvety, screechy, throaty, rattling, mellow, chirpy, brassy, sharp, heavy, buzzing, crisp, metallic, wooden etc.*

PITCH - The **highness** or **lowness** of a sound, a musical instrument or musical note (high/low, getting higher/lower, step/leap).

FANFARE – A short, lively, loud piece of music, usually for **BRASS INSTRUMENTS** and sometimes **DRUMS** and other **PERCUSSION**. A Fanfare is usually warlike or victorious in character and can be used to mark the arrival of someone important, give a "signal" e.g. in battles or be used to signal the opening of something *e.g. a large sporting event or similar ceremony*. Fanfares often use only notes of the **HARMONIC SERIES** – a limited range of notes played by bugles and Valveless trumpets.

F. Map/Plan of an Orchestra

Drama – Terms 3 & 4. Mime, movement & physical theatre

Study Focus

The focus of our early study will be on developing your ability to mime effectively. You will work alone and in focused pairs to understand and master the physical and psychological skills needed to mime effectively and creatively.

There will be a very high level of input from the teacher so that you have the necessary individual attention and coaching to identify the exact ways that you can develop your skills.

Later on, when the class has a certain level of understanding, there will be more peer assessment opportunities, but this will only be when the level of understanding is sufficient. There will be opportunities for you to share your work with your family and for them to share their thoughts with me. In this way you will have a number of viewpoints and ideas on how to progress.

In our later studies, you will work with others in small groups to develop your ability to communicate your ideas in the increasingly popular genre of physical theatre. We will use exercises from a variety of physical theatre companies including; Theatre de Complicite, Might & Main Productions and the KOSH

MIME TECHNIQUE

Internal (psychological) technique

- Using your **mind** & **emotions** to;
- ***Visualise*** your setting.
- ***Imagine*** the object
- ***Picture*** what it is like
- ***See*** where you are
- ***Focus*** on the image in your mind
- ***Believe*** in what you see
- ***Concentrate*** on making the object 'real' for you and therefore the audience.

External (physical) technique

- Using your **hands** and **body** to show;
  - The **shape**
  - The **size**
  - The **weight**
  - The **temperature**
  - The **feel** and **texture**
  - The **use** of and **function** of
  - The **value** and **fragility** of
  - The **taste** and **smell** of the object.

Stage positions & abbreviations

Stage left and right are from the perspective of an actor looking out at the audience. This way of staging is called, **End – On** because the audience is positioned on one end of the stage. You will learn other ways of staging a play in year 8 and 9.

Auditorium …Audience … Spectators … Auditorium …

DSL	**Down Stage (DS)**	**DSR**
Stage Left (SL)	**Centre Stage**	**Stage right (SR)**
USL	**Up Stage**	**USR**

Once upon a time the stage area in a theatre was, 'raked'. This means that it was on a slope and the stage got higher the further away it was from the auditorium. This was so that the actors further away could be seen above the heads of the actors nearer the audience . This meant that an actor literally walked 'downstage' when they walked towards the audience and literally upstage when they were walking away from them.

'Making Tea'

Suggested Order of tasks

- **Take (fast boil) kettle to tap and fill with water**
- **Return to carriage or socket. Switch on.**
- **Get cup from cupboard.**
- **Get tea bag from box and put in cup**
- **Take cup to kettle**
- **Fill with boiling water.**
- **Take spoon from draw.**
- **Steep stir tea bag in cup**
- **Take teabag out with spoon and take to pedal bin.**
- **Put spoon by cup**
- **Take sugar from cupboard.**
- **Take another spoon from draw – or sugar bowl.**

Take spoon full of sugar and pour into cup. Return dry spoon to sugar bowl

- **Stir sugar into tea with first tea spoon. Put spoon down.**
- **Take milk from fridge to cup.**
- **Pour in milk and stir.**
- **Put milk back in fridge.**
- **Rinse teaspoon under tap and put in drainer.**
- **Take cloth from sink and wipe any drips or marks.**
- **Return cloth to place at sink.**
- **Blow lightly on surface of tea.**
- **Take a sip of tea**

Key Features of Physical Theatre

Physical theatre is a ***genre*** of theatre. In this genre, ***physical theatre***, the actors have extra responsibilities.

As well as playing their **character**, the actors also 'play' the **set**, furniture and **props**. They also create the different **atmospheres** of the scenes.

Cast:
For the physical theatre kitchen
7actors

1 human,
gas cooker,
sink & tap,
microwave oven,
washing machine,
tumble dryer,
toaster,
(refrigerator)

Not having to change the set and lighting between scenes allows the **pace** of the play to be maintained.

Physical Theatre productions do not rely on traditional set and props. This makes these plays versatile as they can change setting and atmosphere instantly without having to take off large pieces of set and bring on others.

The actors use their bodies and voices to play the various objects of set and use mime to show the personal properties (props). The actors create the various atmospheres and soundscapes with their voices and maybe instruments.

The actors also create and change the different **atmospheres** of the scenes. The chilling spooky **atmosphere** of a horror or the jolly peaceful sound of a summer beach holiday

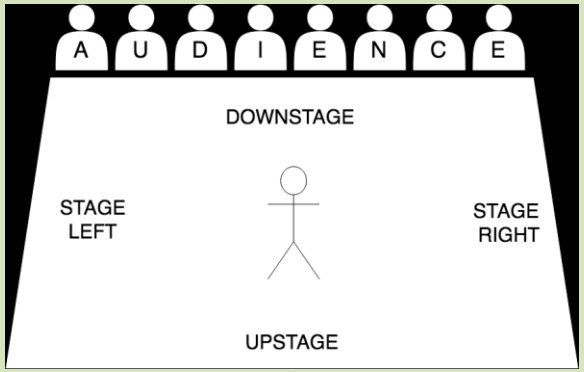
Students work in pairs in the role of two chefs preparing breakfasts in a busy kitchen

Order;

2 full English:
2 rashers bacon- fried
2 sausages – fried
2 tomatoes, ripe, sliced – grilled
2 eggs – scrambled
Round of toast – lightly buttered
2 cups of tea
Either –
Black pudding
Baked beans
Hash Brown
Mushrooms – fried

Physical theatre plays often incorporate other art forms too, dance, mime, music and martial arts, for example

Often there are no lighting changes in ***Physical Theatre*** plays. The actors create the situations and times of day through their chosen dialogue. Shakespeare wrote many references to **time and place** into his character's **dialogue** BECAUSE their were no lights in those days, of course



Key words and ideas - a glossary of terms

- **Mime**- the technique of making something appear to be there when it is not- an illusion.
- **Physical theatre** – a genre of theatre where there is less reliance on set, props, sound or lighting. the actor uses their voice and body to create the various settings, environments, moods and atmospheres. Physical theatre often makes use of dance, movement, mime, martial arts and song as well as the spoken word.
- **Sound scape**- using voice and body – sometimes objects and musical instruments- to create a sense of the environment and setting of the scene e.g. water dripping in a cave.
- **Vocal atmosphere**- this is the use of voice and sometimes instruments- to create the mood and atmosphere of a scene a bit like how music is used in a film. A vocal atmosphere is usually made 'live,' by actors on the stage.
- **Abstract** – in drama, we use this term to mean a scene or a piece of acting that portrays an idea- like, heaven or love or silliness, rather than something naturalistic like a person.
- **Up stage / downstage-** Some years ago the stages in theatres were raked (sloped) so that they were lower at the front, near the audience and higher towards the back. So, when an actor walked towards the audience they literally walked, ***downstage*** and as they walked away they walked, ***upstage***. In this way the actors at the front did not completely block out by those actors at the back.
- **Stage left / right** – left and right on stage are always from the point of view of the actor looking out at the audience.
- **Levels** – The idea of thinking about the stage space as being divided into a high level e.g. standing, medium and low level eg lying on the floor.
- **Aesthetics** – The study of what is beautiful in art. In this scheme, we look for balance in the body and symmetry in use of stage space.

Progression, homework and assessment

There are two drama homeworks in term 3. The first homework is designed to familiarise students with the idea of thinking about mime in two parts; **internal** – what they need to do in their mind's eye and **external**- how they show what they are visualising in their mind's eye. The task is set as a design for a poster in full colour- no felt tips please- coloured pencils are great.

The second homework is a collaboration between you, me and your family. Firstly you need to ask a family member if and when they could make time to watch and evaluate your mime of making a cup of tea. You will need to explain to them all of the things that you are practising in this task so they understand what to look out for. You then perform your mime for them and ask if they will be kind enough to write down a few comments on a bit of paper and bring it in for me at the next lesson

Making Tea –

Things to tell your family that you are practising;

Visualising each object

Picturing your setting – your kitchen

Showing key things about the object

Keeping the work surface at the same **level** throughout

Using your **stage space** fully; stage left, downstage etc.

Using both your right and left hand in a balanced way so that your mime is **aesthetically pleasing**

Progression

We learn that to mime effectively we need to picture each object and then to show the spectators key things about the object- the shape & size for example. We practise these skills in a mime of Making a cup of tea. In this task we also learn ideas about the stage space and how to use the space fully and effectively. We also learn that aesthetics is the study of what is beautiful in (theatre) and that we can make our Tea mime aesthetically pleasing by using both our left and right hand in a balanced way.

After a solo task of miming the objects in a kitchen, we learn to 'play ' the objects in a kitchen in a group task using physical theatre. Some students 'play' the gas cooker, washing machine etc. and take turns to play the human using each of them as part of their morning routine. We also learn about ***blocking*** and how to lay out the **Set** and **props** on a stage. Individual coaching is given in a series of focussed solo tasks where students get very clear and detailed feedback on their mime and acting.

Outdoor and Adventurous Activities

Knowledge

Confidence

Fitness Levels

Key Words:

- Communication - Verbal, visual and written.

- Leadership

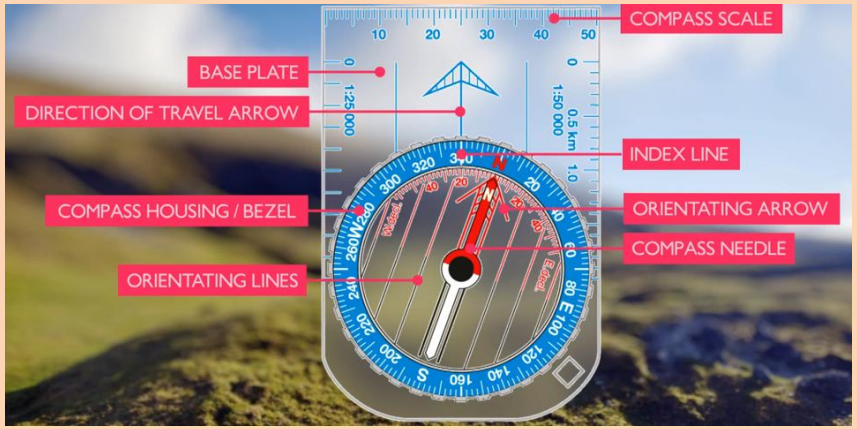
The action of leading a group of people or an organisation.
Can you communicate your ideas?
Can you listen to those in your team?
Can you manage those around you?

- Cooperation

The action or process of working together for the same goal.

- Orienteering

A competitive sport in which runners have to find their way across rough country with the aid of a map and compass.



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.

How does Fitness contribute to your Wellbeing?

- Helps you cope with the physical side of life.
- Moderate exercise improves longevity – how long you will live.
- Lowers risk o psychological illness.
- Lowers risk of eating problems.
- Less likely to be off school with sickness.
- Gives you a lover resting heart rate.
- Lowers blood pressure.
- Can help weight control.
- Improves body composition.
- Gives your stronger bones.

Gymnastics

Knowledge

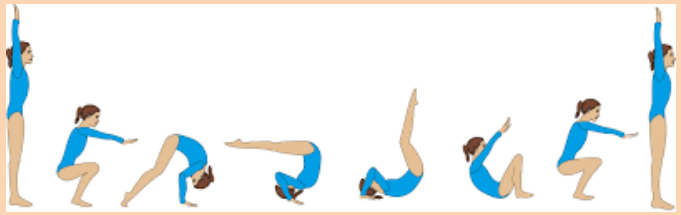
Scoring in Gymnastics:
The scoring in gymnastics is based on how difficult your routine is and how well you execute/ perform it. Each routine should include 8-10 skills and last for a set duration of time.

Difficulty of Elements: The elements are the skills and techniques you perform, such as jumps, rolls and step patterns. The easier the skills (A) = 0.1pts to = 0.8pts (H) for the hardest skills you perform.

Evaluation of Execution: This is based on how well you perform the skills and the technical errors that may occur throughout a routine, for example falls, bent arms, additional steps, etc. Each performer starts on 10 and depending on the errors made points will be deducted.

Bonus points are awarded to linking skills and techniques together to produce more complex movements and executions.

Skills/ Techniques:
Balances, step patterns, jumps/ leaps, rolls, levels and shapes



Confidence

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What do we have to do throughout a routine to make it aesthetically pleasing?

Fitness levels

Skills & Techniques:
Exploring ways to travel:
- One foot, two feet, sliding, jumping, rolling
  - Different levels
  - Different speeds

Basic techniques to consider:
Jumping:
- Power for height
- Landing – use of arms for control

Forward roll:
- Squat down, feet together
- Hands on the ground, head between hands
- Push hips over head
- Straight legs and pointed toes
- Reach forward and stand up

Balance:
Teaching Points:
- Control of the movement
- Body tension
- Extension – pointing the toes

Headstand:
- Hands flat on the floor
- Little-more than shoulder-width part, head above to make the top of a triangle
- Walk feet in, keeping knees off the ground
- Keep his high and tuck knees up
- Straighten one leg up at a time – maintain control.

Knowledge

Badminton

Fitness levels

Confidence

Rules:

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

Stretch and Challenge Task:

- How confident are you to umpire?
- How easily can you place the shuttle to the space on your opponents side?
- Can you use your serve to your advantage?
- What movements help you to cover the court?

Implementation of the Academic Standards to the PE Environment:

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

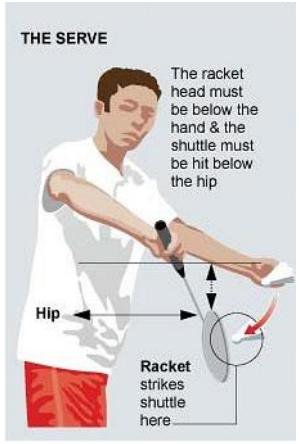
Skills & Techniques:

Forehand Grip:

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

Backhand Grip:

- Thumb on the flat side of the grip



Ready Position:

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

Serve

- Hold the shuttle by the feathers
- Racket head below net height
- Drop in the swing of the racket
- Weight transfer for power
- Watch the shuttle as it hits the strings

(Forehand low serve/ Backhand low serve/ Forehand high serve)

Overhead clear

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

Design and Technology

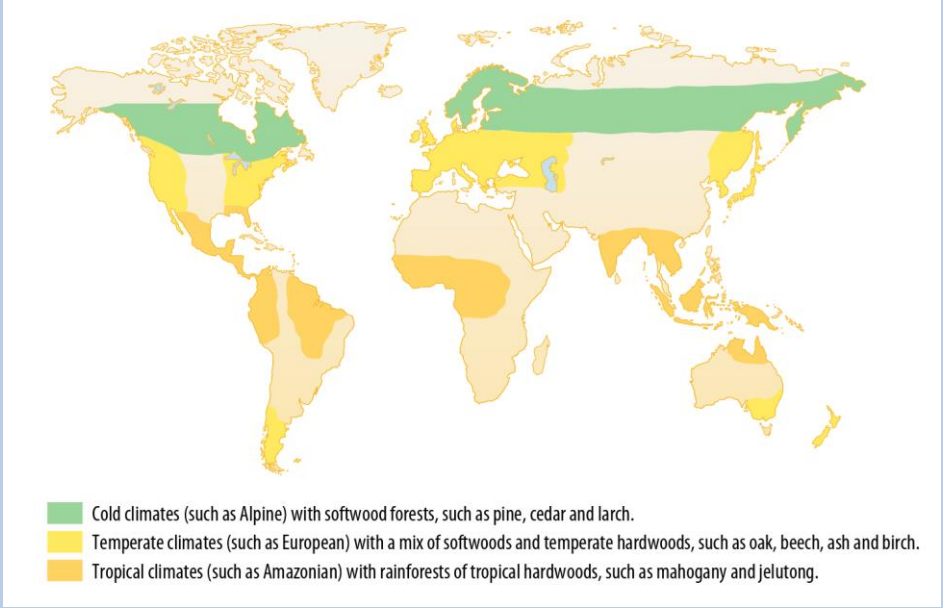
Timber is wood that has come from tree trunks and has been dried and cut into planks. Timber has been used as a building material for thousands of years to make homes, furniture and tools. Timber is still used a lot as trees grow naturally, their wood is easy to work with and it is relatively strong and lightweight.

Hardwood comes from a broad leaved tree whose seeds are enclosed in a fruit. They grow quite slowly, often taking over 100 years to be big enough to be used for timber.

Softwood comes from a tree with needle like leaves, and seeds in a cone, they are coniferous. Most softwood trees are evergreen, meaning they have leaves all year. They grow quite quickly, and can be used for timber after about 30 years. This means they can be grown commercially, which is why softwood is a lot cheaper than hardwood.

Hardwoods	Advantages	Disadvantages	Common uses
Oak	Strong and durable Has an attractive grain when well finished	Expensive, becoming rarer Harder to work than other woods Corrodes iron and steel	Building houses and boats, high quality furniture, wine and whisky barrels
Mahogany	Has a very attractive finish Quite easy to work with	Expensive, environmental problems with sourcing from tropical forests, oil in the wood can cause skin or breathing problems	High quality furniture, jewellery boxes and window frames
Beech	A tough wood Does not crack or splinter easily Hard	Expensive, not very resistant to moisture Not suitable for exterior use	Toys, cooking implements, solid wood and laminated furniture
Ash	Strong, tough and flexible Finishes well	Low resistance to rot and insect attack	Handles for tools, sports equipment and ladders
Balsa	Very lightweight Easy to cut	Much too soft and weak for most products	Model making, surfboard cores, buoyancy aids
Jelutong	Even close grain Easy to cut and shape	Soft and not very strong Not good for structural use	Model making, moulds for casting or vacuum forming
Birch	Regular even grain Easy to work	Low resistance to rot and insect attack	Veneers to make plywood and surface cheaper materials that are used for furniture or doors

Softwoods	Advantages	Disadvantages	Common uses
Pine	Very durable, easy to work, quite cheap as it grows quickly enough to be forested, reasonably strong and lightweight	Can warp, crack and splinter more than some other woods	House construction for roof joists and floorboards Furniture doors and interior woodwork
Cedar	Natural oils make it resistant to water and fungal growth	More expensive than pine and not as strong	Outdoor furniture, fences, sheds and boats
Larch	Tough, durable and resistant to water It can be used outside untreated and weathers to a silvery grey	Costs more than other softwoods	Small boats, yachts, exterior cladding on buildings



MDF

Plywood

Chipboard

Manufactured timbers use natural timbers to make boards that have different properties to plain timber. Because of the size of a tree trunk timber is limited to fairly narrow planks. If you need large, thin sheets of wooden material you will need a manufactured board.

Boards	Advantages	Disadvantages	Common uses
Plywood	Flat and structurally sound, surface looks like real wood, resistant to warping, cracking and twisting	Quite expensive, edges can look rough, susceptible to water damage if using the wrong grade	Building and furniture panels that need some strength
MDF	Cheap (made from waste wood), smooth ungrained surface is good for painting or staining, easy to machine	Poor aesthetics, so needs coating, weak compared to real or plywood, tools blunt quickly due to glue content	Flat pack furniture, wall panels, display cabinets, storage units and kitchen units
Chipboard	Use waste materials so is cheap to produce	Poor structural strength, especially in damp conditions, surface is very rough so usually plastic coated	Desktops, kitchen worktops, cheap flat pack furniture

Properties

It is important to know the correct meaning of the words that describe a material's properties. Comparing materials helps to define each material's properties. For example, do not say oak is hard, because there are lots of harder materials. Say: oak is harder than pine.

Hardness is the ability of a material to withstand cutting and scratching. Timber is generally quite a soft material. It can easily be scratched and cut with metal tools, which are much harder than wood. Oak is quite hard for a wood. Balsa is very soft for a wood. This should not be confused with the classification of trees as hardwoods and softwoods.

Toughness is the ability of a material to withstand being hit. A tough material can be quite soft, and might bend or deform when hit, but not break. Timber is quite a tough material. If you hit it with a hammer it may dent, but not break.

Durability is the ability of a material to last a long time. Timber that has been dried out and is kept dry is durable. Oak beams in old buildings can be hundreds of years old. However, wood that is left wet can rot quite quickly and won't then be very durable. Some timbers contain natural oils that make them more durable outside. Timber can be treated with preservatives to make it more durable for outside use.

Elasticity is the ability to stretch and return to its original length or shape. Timber is not generally elastic, but some are more than others, yew is used to make archery bows for example.

Tensile strength is the ability to withstand pulling force, timbers tend to have a good tensile strength, often 3 or 4 times better than compressive strength.

Compressive strength is the ability to withstand a crushing force, the denser the timber the better its compressive strength.

Orthographic views

Orthographic projection is used to show the detail and measurements of the product clearly from a range of angles so that a stranger could use the drawing to work out the shape and dimensions for manufacture. A furniture designer would be a perfect example of someone who may use orthographic projection.

To create an orthographic projection, you draw the front view, side view and plan view of your product in 2D. You can either draw them out by hand or generate the views using various CAD programs from your CAD model. You can use first angle projection or third angle projection – although the views may appear the same, the order that they are laid out differ.

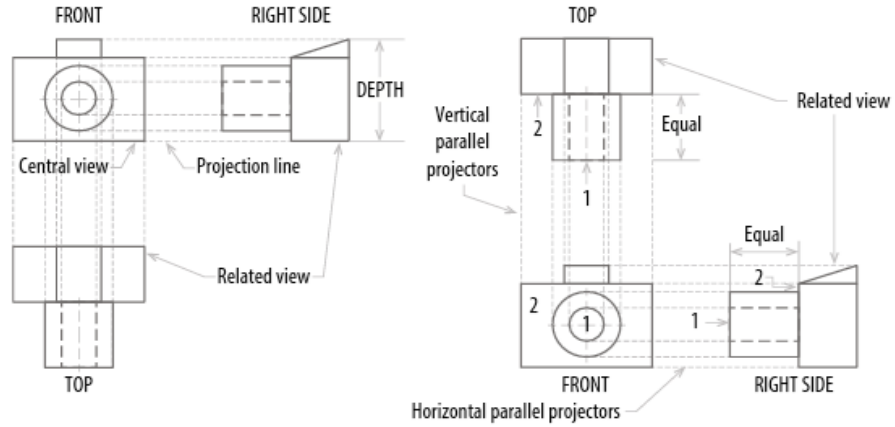
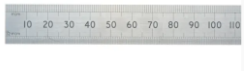
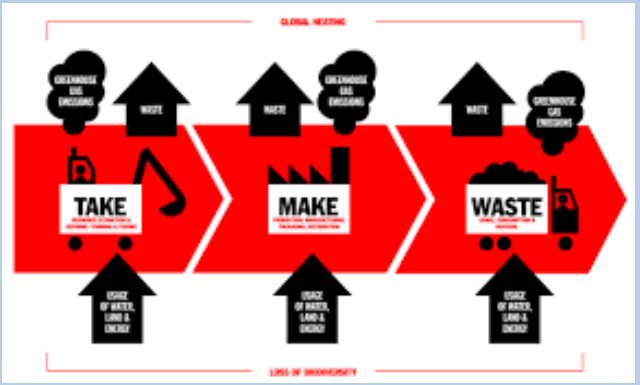
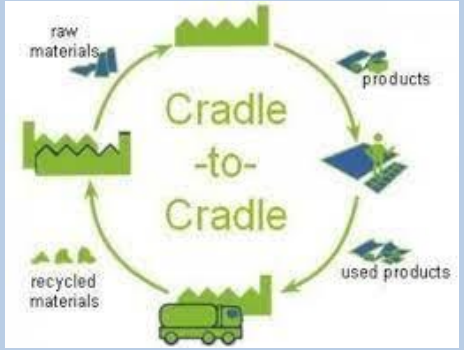


Figure 1.17.7 First and third angle projections for orthographic projection showing all sides of the product

Tools and equipment	
Try Square	
Steel rule	
Marking gauge	
Saws (tenon, hand, coping, scroll and jigsaw)	
Mallet	
Chisel	
Pillar drill	
Centre lathe	
Disc sander	





The environmental impact of manufacturing and using products

Life Cycle Assessment	
Raw materials	Where have your materials originated from? What is the environmental impacts of using them? Timber comes from trees, which are cut down…
Timber processing	How were the trees turned into the timber that you used? Trees are processed in a sawmill to turn them into timber, this has an impact on the environment…
Manufacture	How did you shape, join and finish the timber? Using tools, equipment and machinery all have an impact on the environment, some greater than others…
Distribution	If you were to make Funky Truck on a larger scale how would you distribute it to the retailers? Shipping raw materials and products around the planet uses a great amount of energy…
Product in use	Having observed your user playing with Funky Truck what environmental impact could it have? Is the product simple to use, does it require power?
Repair and maintenance	Is Funky Truck durable, does it require frequent servicing to keep it working? Will Funky Truck damage easily in normal use?
Disposal	Thinking ahead, what would happen to Funky Truck at the end of its life? Could it be easily disassembled and sorted for recycling? Have you include recycling symbols to make this process easier for your user? Are there any treatments that make disposal more difficult? Could the materials be upcycled?

Follow the Safety Rules in the Textiles Technology workroom to stay safe!

1. ***FOLLOW*** **instructions.**
2. **Put all bags and coats under the table.**
3. **Keep chairs tucked in.**
4. **Do NOT run in the Textiles workroom – WALK!**
5. **Use all equipment correctly and appropriately.**
6. **Put all equipment away in the correct place after you have used it.**
7. **Always make sure that you have been shown how to use equipment before using it.**
8. **Tie long hair back.**
9. **Carry scissors closed and by the blades.**
10. **A sewing machine is used by one person – don't try to use a sewing machine with someone else.**
11. **NEVER distract anyone who is using a sewing machine.**
12. **Turn sewing machines off when you have finished using them.**
13. **No food and drink in the Textiles workroom.**

Key Terms

Safety: taking care not to hurt or injure yourself or others.

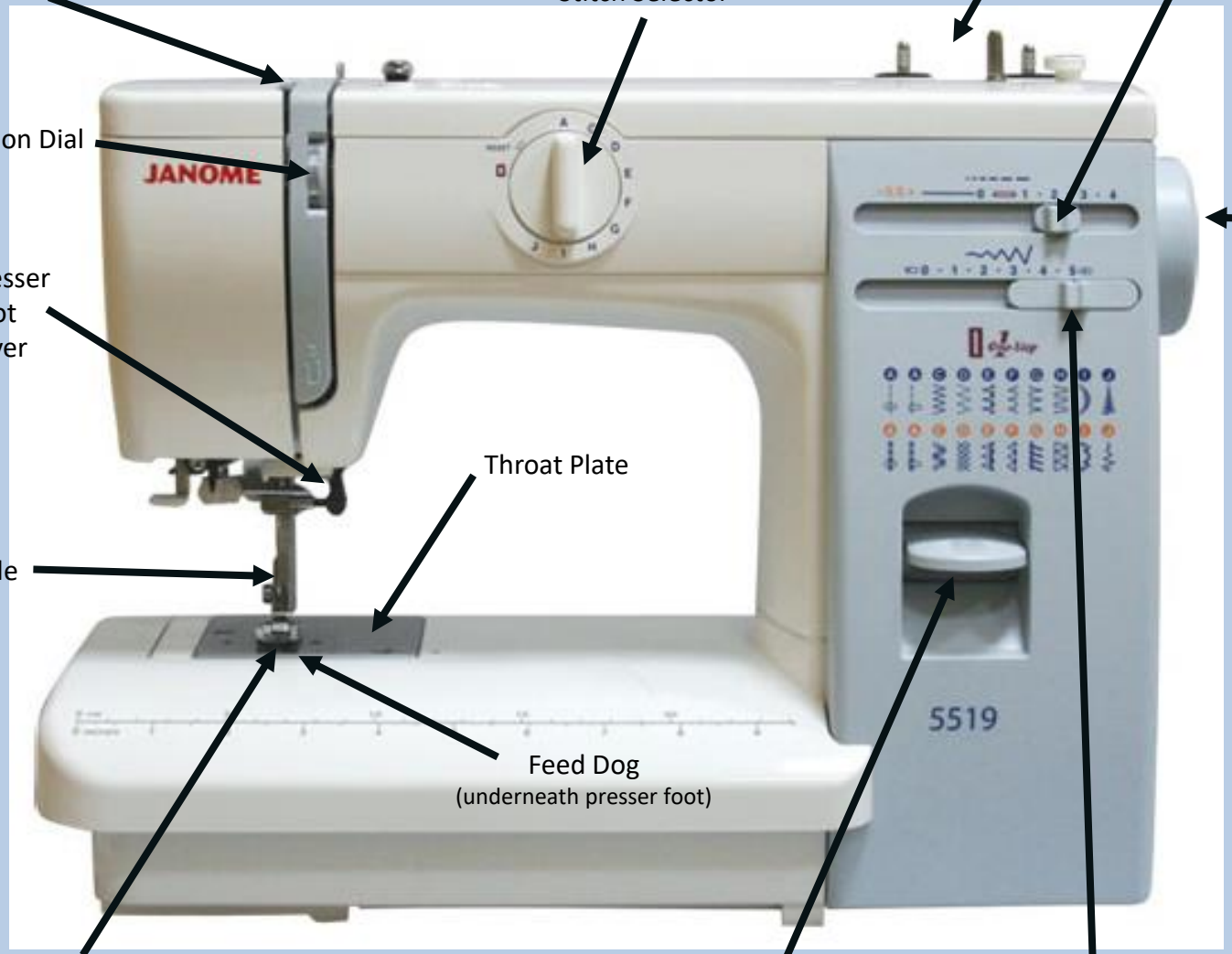
Hazard: any feature of a situation which may cause harm or injury.

Risk: the chance of a hazard causing harm or injury.

Risk Assessment: calculating how big a risk is by thinking about whether the harm or damage is likely to happen.

Risk Control: action taken to ensure that the harm or damage is less likely to happen.

SEWING MACHINE- the main parts.



Thread Take-Up hook

Stitch Selector

Spool Pins

Stitch Length Selector

Tension Dial

CAM Wheel

Presser Foot Lever

Throat Plate

Needle

Feed Dog
(underneath presser foot)

Presser Foot

Reverse Lever

Stitch Width Selector

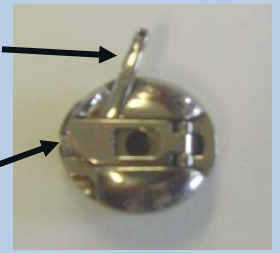
Bobbin Compartment

Bobbin

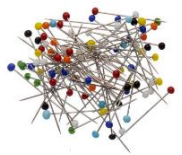
Bobbin Case

Bobbin Case Finger

Bobbin Case 'Latch'



Foot Pedal and Lead

Hand sewing Needle		Hand sewing needles are used with thread for sewing by hand. They have a point at one end - this is very ***sharp*** - and a hole at the other which is called an 'eye'; this is where the thread goes. Needles are ***sharp*** so you need to be careful when using them so you don't prick yourself!
Pins		They are also known as ***Dressmaker Pins***. They are used for holding fabrics together ***temporarily*** while sewing. They are also used for holding pattern templates onto fabric while you cut out. Pins are ***sharp*** so you need to be careful when using them so you don't prick yourself!
Pin Magnet		This might also be known as a ***Magnetic Pincushion***. This keeps the pins in one place. Pins should be put onto a pin magnet and not left on the table or near the sewing machine as they will get damaged.
Fabric Scissors		Sometimes called ***Fabric Shears***. We use these for cutting fabric. ***Only fabric***. They cut fabric accurately and they allow you to cut for longer periods of time without getting hand fatigue. Notice that the blades are longer and they have one large for 3 -4 fingers and a small hole just for your thumb.
Embroidery Scissors		We use these for cutting threads. They have short blades and can cut right to the tip. We use them by the sewing machine but they are also useful for cutting detail in fabric such as button holes. Not for use with paper!
Pinking Shears		These scissors feature a characteristic zig-zag edge. We use them to create a ravel-resistant edge on fabric; this means it will help prevent the fabric from ***fraying***. These scissors can also be used to give a decorative edge on craft projects.
Paper Scissors		We use these for cutting paper. ***Only paper and cardboard.*** Notice that the two holes are small and the blades are short.

Tape Measure		It is **long** and **flexible** and made from durable plastic or fabric. Most tape measures are marked with centimetres on one side and inches on the other. We use it to measure obviously but because it is long and flexible you can take body and other measurements easily.
Quick Unpick		Also known as a ***Seam Ripper*** and this really handy tool removes unwanted stitches quick and easily. It has a ***sharp point*** and ***cutting blade*** o be careful when using it. ***NEVER*** be afraid to make a mistake.
Aqua Pen		This is another tool used for marking fabric. It is also known as a ***Water Erasable Pen***. It's useful if you want to mark fine lines or trace a design or transfer complex pattern markings onto fabric. This pen makes bright blue marks which are easily removed with ***water***.
Tailors Chalk		This is used for ***marking fabric*** so you know where to cut out or alter a garment. It is often found in the shape of a triangle - the edge can mark fabric with precision. Tailor's chalk is easily removed.
Machining Thread		These are fine ***yarns*** of ***cotton***, ***nylon*** or ***polyester*** and are used for ***sewing by hand*** or ***by machine***. Threads come in different sized spools and in lots of colours to match the fabric you are sewing together.
Embroidery Thread		Comes with 6 threads intertwined that can be 'split' to reduce the thickness. Used to create ***decorative stitches*** on products.

Y7 Textiles Key Words	
Stitch	**Thread passes through fabric to keep it together.**
Seam	**Where two pieces of fabric join together by stitching.**
Seam allowance	**The area between the edge of your fabric and the line of stitching being used to join two or more pieces of material together.**

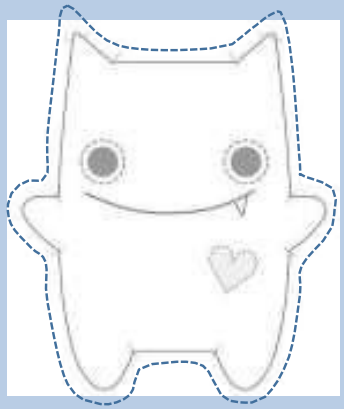
A **seam allowance** is the space between a stitching line and the edge of the fabric.

Sewing a seam right against the edge of two pieces of fabric can lead to fraying and may not hold in place. It is important to include a seam allowance that makes sure that the seam will be sturdy and not come away from the raw edge of the fabric.

Add **seam allowance** all the way around your design.

Seam allowances are also useful when making garments or products that may need to be altered, such as clothing.

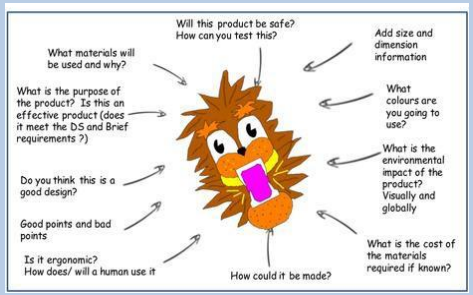
Seam Allowance



Designing

Communicating your ideas with others.

Carefully sketching our your ideas and neatly shading in your ideas to ensure your ideas are clear.



Annotation

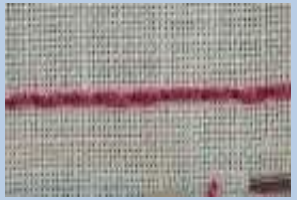
Adding short explanations to your design ideas to help explain your designs further.

The Design Process	
Design Brief	**A statement outlining what is to be designed and made.**
Research	**Sourcing information and inspiration to help with design work.**
Specification	**A list of design criteria.**
Design Ideas	**A range of potential solutions to the problem.**
Development	**Further improving an idea.**
Final Design Idea	**A presentation drawing of chosen idea.**
Manufacture	**Making the final outcome.**
Evaluation	**Reviewing strengths and weaknesses of final product and design work.**

Hand stitches

Straight stitch

Blanket stitch



Back stitch

Cross stitch

Appliquè

Applying one layer of shaped fabric to another. This can be done either by hand or by a sewing machine.

Reduce

Minimise the amount of materials you use, reduce the amount we need to buy and make long-lasting products .

Refuse

Don't use or buy a product if you don't need it or if its unsustainable or wasteful.

Repair

When a product breaks down, or doesn't function properly, try to fix it – it's better than throwing it away into landfill.

Rethink

Ask whether we can sustain our current way of life and the way we design and make. Can something be made in a different way?

Recycle

Take an existing product that has become waste and reprocess the material to use in a new product. This uses less energy than obtaining new materials.

Reuse

Take an existing product that has become waste and use the material or parts for another purpose, without processing it.

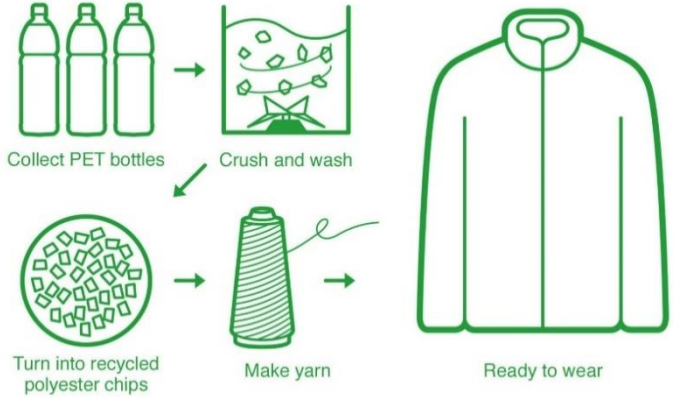
This symbol is called the **MOBIUS LOOP** or 'recycling symbol' and indicates that a product **can** be **recycled**, but not necessarily that it **has** been itself produced from **recycled** materials.

The **6 RS OF SUSTAINABILITY** are used to remind us of how we can improve the impact textile products have on society.

FAST FASHION' - inexpensive clothing produced rapidly by mass-market retailers in response to the latest trends.

The **6R's** are a way of helping you think about the reducing the impact of a new product on the **ENVIRONMENT** and **PEOPLE.**

Unwanted textile items will end up in **LANDFILL** – a place where unwanted materials are sent, which are then buried underground.



FLEECE fabric is made from **RECYCLED PLASTIC BOTTLES**. This makes a polyester yarn that can be woven or knitted into fabric to make clothing.

Knowledge Organiser – Year 7 Food

Macro & Micro Nutrients

Carbs Protein Fats

What are Nutrients?
Nutrients are the building blocks that make up food and have specific and important roles to play in the body. Some nutrients provide energy while others are essential for growth and maintenance of the body.

Macro Nutrient	Role in the body	Food Example
Carbohydrate	The main source of energy for the body.	Bread, rice, pasta, potatoes
Protein	Provides the body with growth and repair.	Meat, poultry, beans, eggs, lentils, tofu, fish
Fat	Provides the body with insulation and a small amount protects vital organs. Provides essential fatty acids for the body.	Butter, oil, cheese, cream, nuts, oily fish, crisps

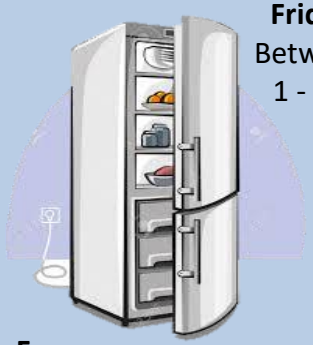
Vitamin	Role in the body	Food examples
A	Helps to keep the eyes healthy and strengthen the immune system.	Dark green leafy vegetables, carrots, liver
B	Helps to release the energy from the food we eat.	Bread, milk, cereals, fish, meat
C	Help with skin healing and healthy skin. Help with the absorption of Iron.	Fresh fruit, broccoli, tomatoes
D	Important for absorbing calcium and help with healthy bone structure.	Oily fish, eggs, butter, Sunshine

Vitamins -Help to keep our immune system up and help our body to stay healthy – they important for body maintenance.

Mineral	Role in the body	Food Examples
Calcium	Important for strong teeth and bones. It also helps with blood clotting.	Milk, yoghurt, soya, dark green leafy vegetables
Iron	Needed for red blood cells which help to transport oxygen around the body.	Nuts, whole grains, dark green leafy vegetables, meat, liver

Minerals- Help to keep our immune system up and help our body to stay healthy. Vitamins and minerals are Micronutrients.

Key Temperatures



Fridge
Between 1 - 5◦C

Freezer
Below -18◦C

Danger Zone
Bacteria multiply quickest between 5 - 63◦C

Cooking
Food should be cooked above 75◦C

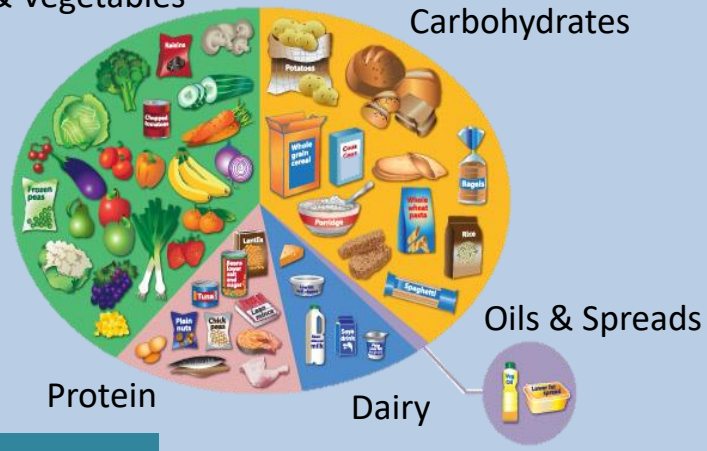
Knife Skills

Bridge Hold – Hand creates a bridge holding the food in between. The knife slices through the middle of the bridge. Used for cutting food in half.

Claw Grip – Fingers tucked under holding food. Knife comes down from flat knuckles to slice food. Used for slicing.

Knowledge Organiser – Year 7 Food

Eatwell Guide



The Cooker

8 Tips for healthy eating

1)Base your meals on starchy foods
2)Eat lots of fruit and veg
3)Eat more fish
4)Cut down on saturated fat and sugar
5)Eat less salt
6)Get active and be a healthy weight
7)Drink plenty of water
8)Don't skip breakfast

Weighing and Measuring

For good results in most recipes, **accurate** weighing and measuring is essential. When you are baking with flour, sugar and liquids, you must measure accurately or your cooking will be spoiled. If you weigh out too much sugar or too little raising agent, your cakes would not rise or you could spoil the taste and/or texture.
Food can be weighed in **Grams (g)** and there are **1000g** in a **Kilogram (kg)**. Liquid is measured in **Millilitres (ml)** or **litres.**





Equipment

Weighing scales, knife, chopping board, measuring spoons, saucepan, wooden spoon, tablespoon, teaspoon dessert spoon, mixing bowl, grater, pan-stand, baking tray, cooling rack, peeler, pastry brush, spatula.


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

YEAR 7 GRAPHIC DESIGN

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

What does a graphic designer do?

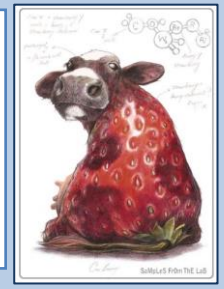
Graphic Designers create visual concepts to communicate information. They create everything from posters and billboards to packaging, logos and marketing materials. Graphic Designers use elements such as shapes, colours, typography, images and more to convey ideas to an audience.

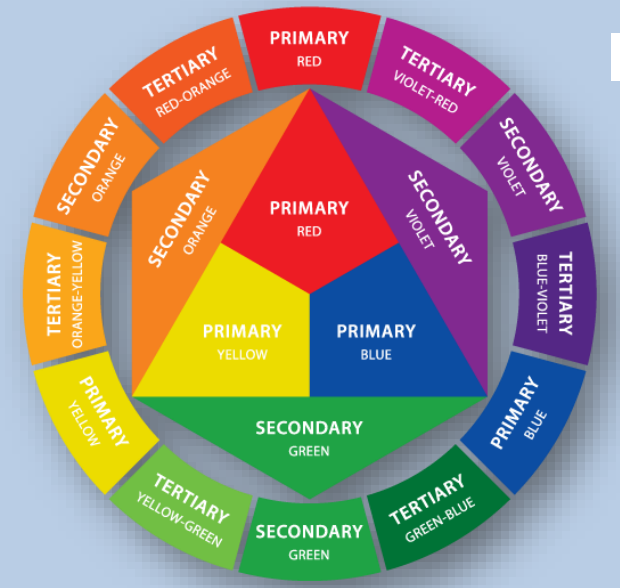
Graphic Designers:

- Freya Hartas
- Jon Burgerman
- Alexander Calder
- Abigail Burch

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.





CATERPILLAR — OPTIMISM, CLARITY, WARMTH

Fanta — FRIENDLY, CHEERFUL, CONFIDENCE

Coca-Cola — EXCITEMENT, YOUTHFUL, BOLD

CREATIVE, IMAGINATIVE, WISE, EXPENSIVE, Cadbury ROYAL

facebook — TRUST, DEPENDABLE, STRENGTH

JOHN DEERE — PEACEFUL, GROWTH, HEALTH, NATURE, ENVIRONMENT

BALANCE, NEUTRAL, CALM

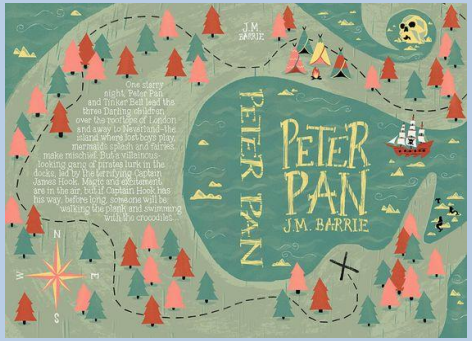
Complimentary colours are colours which are opposite to each other on the colour wheel. Examples of complementary colour combinations are: Red and green; yellow and purple; orange and blue; green and magenta. Complementary colour combos tend to be bold, which is why sports teams often use this formula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

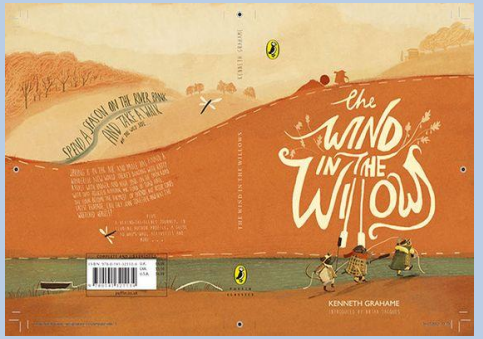
What do illustrators do to promote their work?

Illustrators and graphic designers include many processes into their practice to promote their work. For children's books illustrators, this could include designing shop windows/shop spaces which could include memorabilia linked to their children's books.

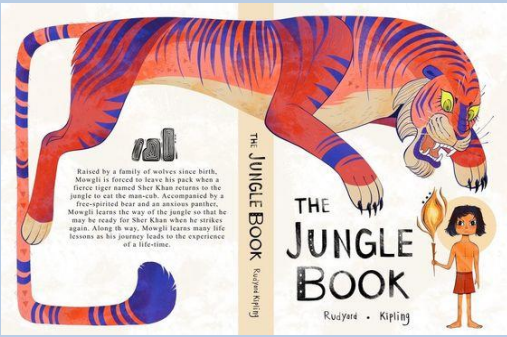
Promoting your own children's book design:

Making a book cover is a very important aspect in promoting your book. The book cover allows the target audience to have a glimpse into what the book might be about and most important who the illustrator/author is.





Merchandise:
Merchandise are goods that can be bought/sold by themselves or sold to promote books, fashion etc. Examples of merchandise are badges, t-shirts, bookmarks and posters.



Paper puppet characters:
Bringing our characters to life by making them **MOVE** by combining the technique of **PAPER-CUT** and **COLLAGE** using **WATERCOLOURS, OIL PASTELS & COLOURED PENCILS.**
These puppets are constructed using card and split pins.

Keith Haring

Andy Warhol

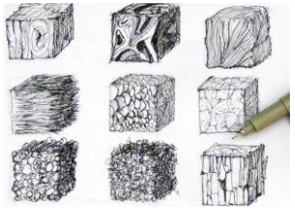
SHAPE

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**

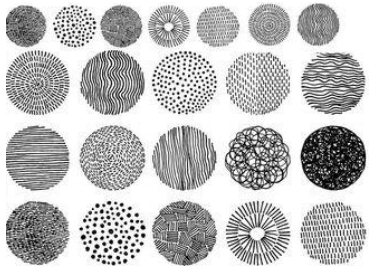
TEXTURE

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



LINE

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



PATTERN

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

Patterns can be manmade or natural