The Trafalgar School at Downton

Knowledge Organiser

Year 7: Terms 1 and 2

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.

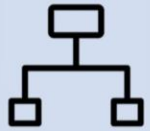
Why is a Knowledge Organiser important?
GCSE specifications require students to memorise more facts, equations, quotations and information than ever before and there are things you will learn right from the start of year 7 that you will need to know in year 11 when you sit your GCSE exams – the Knowledge 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

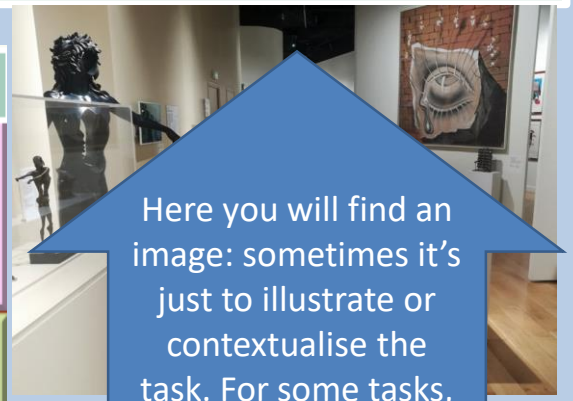
	Look, Cover, Write, Check	Definitions to Key Words	Flash Cards	Self Quizzing	Mind Maps	Paired Retrieval
Step 1	Look at and study a specific area of your knowledge organiser 	Write down the key words and definitions 	Use your knowledge organiser to condense and write down the facts and or information 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. 

Homework Example: Fortnightly Writing Challenge: First Person Narrative

Here is the form, genre, purpose of the writing. It might be hyperlinked to a model to help you.

Methods to include:

ensory description:
factory (smell) and
aud sound)
that
e)
om
f an



Here you will find an image: sometimes it's just to illustrate or contextualise the task. For some tasks, the image will be part of the writing challenge.

Write a short story based on it to a haunte m!

Here you will find the task details. Read them carefully as it will provide more information about about what you are writing (form, purpose) when you have your Week A FWC lesson.

You should include these methods. They are colour-coded to match the pages of your FWC Knowledge Organiser. If you click on each one on the slide, it's hyperlinked to another slide to help you learn about that method, with examples.

Don't forget to plan writing!

l Accuracy
er:

y:
tter at
ning
top,
ion or
question mark at the end.

- **Use paragraphs.**
- **Spell accurately.**

Here you will find prompts so you don't forget important things like planning, punctuating accurately, etc.

Each Week B, you will have an FWC PPT loaded onto ClassCharts. Your homework is to make notes, learn from, and prepare for the task and methods included, ready to write it in your Week A FWC writing lesson.

When writing non-fiction in Year 7, you should practise using the 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, shock, desire to know more etc.
E	experts: use quotes from experts to back you up.
S	statistics: use percentages and other data in favour of your point.
T	triples: use powerful and effective words/phrases in threes.

Fortnightly Writing Challenge Year 7

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.

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)

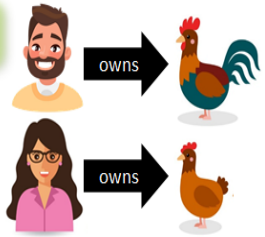
The Rules

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

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 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] 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 making us all dress the same, this encourages us to be the same. At Brinsley High, we are encouraged to express our individuality, yet this seems to be in contradiction of the message enforced uniform sends to us.

fluently sequenced paragraphs

fluently sequenced paragraphs

Furthermore, ...

Yours faithfully
Boris Johnson

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

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, the colour of burnt copper – and were battered and bruised through years of exposure to the elements.

Metaphor, simile, personification

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

sensory description

sensory description

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

sensory description

spatial discourse markers

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

adjectives

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

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

"Kuno!"

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

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

His image faded.

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

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

Journey Description

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

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

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

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?

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

Yours Sincerely

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

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

P1

Form: Letter
Audience: Headmaster
Purpose: Argue change uniform

P2

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

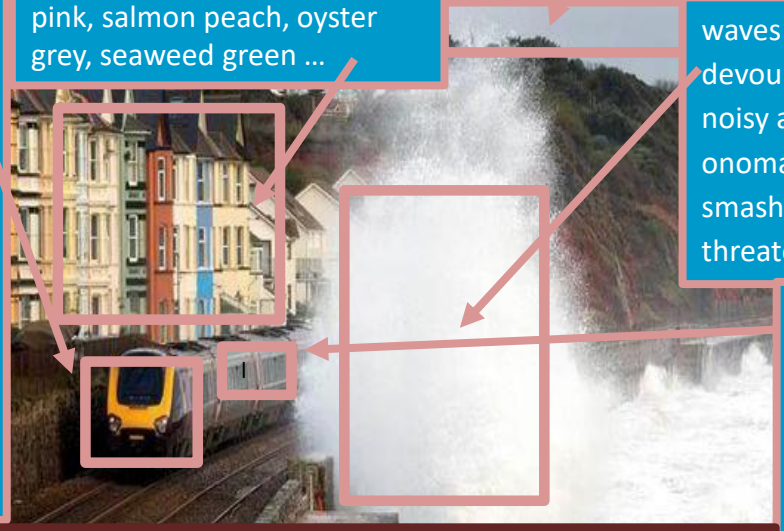
Counter reason: cost cheaper as not designer or from shops making huge profit
Argument reason: cost of blazers, trousers and skirts from school uni shop expensive as no competition, own clothes mix 'n' match so fewer outfits needed, wear weekends so more use,
Supporting example: emotive language: force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

Year 7, Terms 1 & 2: Animal Farm

CONTEXT

George Orwell

Context – *Animal Farm* was written by George Orwell in 1945.

George Orwell – George Orwell was the writing name of Eric Blair (1903-1950). He was outspoken in his support of democratic socialism, and spoke out frequently against totalitarianism and social injustice. He wrote a wide range of fiction, poetry, literary criticism and polemical journalism, although without doubt his two most famous works are *Animal Farm* (1945) and *Nineteen Eighty-Four* (1949).

The Russian Revolution – The revolution was the movement that removed the reigning Tsarist autocracy from power and led to the rise of the Soviet Union. The Bolsheviks, led by Vladimir Lenin, were able to overthrow the provisional government and establish their own federal government, creating the world's first socialist republic. Eventually they became reconstituted as the Communist Party.

Nicholas II– Tsar Nicholas II was the last emperor of Russia. Tsar Nicholas was deemed to be a poor ruler – the country lost key battles against Japan and Germany during his reign, costing large military casualties and financial losses. There were also gross inequalities: Nicholas lived in luxury while thousands of unemployed peasants struggled to survive. Tsar Nicholas was eventually overthrown by the Bolsheviks and was executed in July 1917.

Jospeh Stalin –Following the death of Lenin in 1924, Stalin rose to power through discreetly canvassing, manipulating and intimidating others, sidelining other potential leaders such as Victor Trotsky. Under Stalin, the Soviet Union became more autocratic and totalitarian: he oversaw mass repressions, hundreds of thousands of executions and millions of non-combatant deaths. He has hence become known as one of the most significant and vilified figures of the 20th Century.

Karl Marx and Communism– Karl Marx was a German philosopher from the 19th Century, who rejected capitalism. He instead believed in the introduction of a system in which wealth was communal and labour was shared. He believed this would produce a fairer, more stable way of life. Whilst he lived a long time before the Russian Revolution (and in a different country) his theories formed the foundations for what became Communism.

Life in the Communist Soviet Union – The working class in the Soviet Union were supposed to be the country's ruling class under the doctrines from which their socialism was derived, and yet they grew increasingly repressed throughout the progression of the USSR's existence. It is generally accepted that the standard of living decreased, working conditions deteriorated, and personal freedoms were significantly violated.

Year 7, Terms 1 & 2: Animal Farm

CHARACTERS & THEMES

Themes – A theme is an idea or message that runs throughout a text.

The Corruption of Socialist Ideals – *Animal Farm* is famous for being a stinging critique of the development of Soviet communism. Although Orwell strongly believed in the socialist ideals upon which the revolution was built, he abhorred the ways in which these values had been repeatedly manipulated by those who rose to power. The gradual disintegration of the seven commandments visually depicts this.

Class – *Animal Farm* demonstrates through its allegory the means by which human beings seek to maintain and reestablish class structures. The novella shows how the oppressed who are able to stand united in the face of adversity often generate their own class divisions over time after the enemy is eliminated. This is evident in the slow rise of the pigs to fill the void left by Mr Jones.

Naivety – *Animal Farm* is not only told from the viewpoint of those in power, but also from the viewpoint of those who are oppressed. Orwell makes clear that these types of situations are formed not only because of the strategies of the oppressors, but also the naiveté of the people who do not have the education or the position to know better. For example, Boxer believes everything that he is told.

Religion – An idea of heaven (Sugarcandy Mountain) is promised to the animals by Moses (the raven) at some points throughout *Animal Farm*. Moses is derived from the name of the bible character who brought the word of God to the people. The thought of an evergreen, beautiful afterlife awaiting them drives the animals on to work harder, and so the pigs use Moses to their benefit.

Main Characters – Consider what Orwell intended through his characterisation of each of the below...

Napoleon – Napoleon is the pig who emerges as the leader of Animal Farm after the rebellion. Napoleon's character is based on Joseph Stalin – the leader of the communist Soviet Union. Napoleon is cunning, treacherous, lazy and selfish. He uses Squealer (propaganda) and the dogs (military force) to exert power over others. He has no real talents, rather he is a corrupt opportunist.

Napoleon Quote: "To the prosperity of The Manor Farm!" (10.32)

Snowball – Snowball is one of the other leading pigs, who challenges Napoleon for leadership of the farm after the rebellion. He represents Leon Trotsky. He is intelligent and passionate, yet he does not resort to the same levels of cunning and manipulation as Napoleon. Despite largely winning the support of the animals on the farm, Snowball is driven from the farm by Napoleon's forces.

Snowball Quote: "liberty is worth more than ribbons" (2.7)

Boxer– Boxer is a cart-horse, who demonstrates incredible strength, work ethic, and loyalty. He represents those in the working classes who were hugely overworked. Boxer completes the most work on the farm, and is admired by others for his physical accomplishments and mental grit. His downfall is his slow wit, which ensures that he is unable to think for himself and is easily manipulated.

Boxer Quote: "Napoleon is always right" (5.22)

Squealer – Squealer represents the Soviet propaganda machine. He is a pig who is an exceptionally gifted and persuasive speaker, and is utilised to spread positivity about Napoleon, and negativity about Napoleon's competition. He uses false statistics to suggest that the farm thrives under Napoleon, and twists the truth to ensure that the pigs retain political and social control.

Squealer Quote: "It is for YOUR sake that we ... eat those apples." (3.14)

Old Major – Old Major is a prize-winning boar whose vision of a place in which the animals work for themselves serves as the inspiration for the rebellion. He is based on both Karl Marx and Vladimir Lenin, who inspired communism. Old Major is well-respected, articulate, and persuasive. He is a clear leader who the other animals listen to. When he dies, Napoleon and Snowball are left to struggle for control over the animals.

Old Major Quote: "my message to you, comrades: Rebellion!" (1.11)

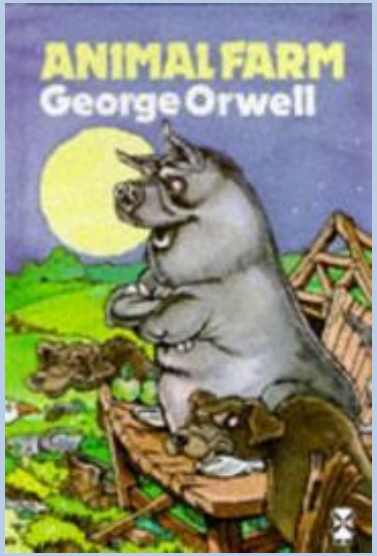
Benjamin – Benjamin is a long-lived donkey who refuses to feel enthused by the rebellion. Some say he represents the aged people of Russia, who remained cynical of the revolution. Benjamin is seen by the other animals as a pessimist, however his prediction that life will remain unpleasant regardless of who is in charge proves correct. He is the only animal who appears able to understand the atrocities that are taking place, yet he refuses to openly oppose the pigs.

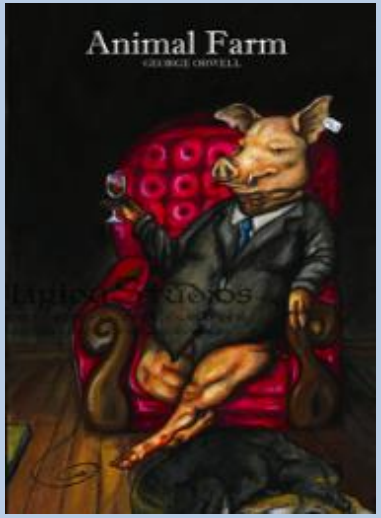
Old Major Quote: "None of you has ever seen a dead donkey"(5.22)

Year 7, Terms 1 & 2: Animal Farm

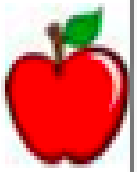
Plot & Key Quotations 1

George Orwell





Scene-by-Scene Summary – Alongside key quotations from each scene.

Chapter I	A drunk Mr Jones stumbles to bed, forgetting to lock up his farm buildings. The animals thus convene in the big barn to hear Old Major's speech. He blames their short and miserable lives on man, and incites rebellion. He teaches them a song: Beasts of England.	*Weak or strong, clever or simple, we are all brothers. No animal must ever kill any other animal. All animals are equal.* 
Chapter II	Old Major dies in his sleep, and the other animals prepare for rebellion. The pigs (the cleverest animals) prepare the others, teaching them animalism, which they don't all fully understand. The Rebellion occurs, and Jones is driven from the farm. The farm is renamed 'Animal Farm' and seven commandments are made.	*"Never mind the milk, comrades!" cried Napoleon, placing himself in front of the buckets. "That will be attended to. The harvest is more important.* 
Chapter III	The animals labour in the fields throughout the summer. Boxer works hardest. There is a flag-raising ceremony each Sunday – Snowball and Napoleon often clash. Snowball spends time trying to educate the animals. Napoleon takes a group of puppies to 'educate' in a loft. When it is noted the pigs have been eating the apples and milk, Squealer persuades the animals that it is best.	*Milk and apples (and this has been proved by Science, comrades) contain substances absolutely necessary to the well-being of a pig. We pigs are brain-workers.* 
Chapter IV	The news of Animal Farm has spread to neighbouring farms (through the birds), where animals have begun singing Beasts of England. Jones and other farmers thus launch an attack, however they are easily beaten by the animals. Boxer and Snowball fight heroically and are awarded medals as a result. Only a single sheep is lost, who is given a hero's burial. Snowball tells Boxer not to feel guilt for a human's death.	*"Who will believe that I did not do this on purpose?" "No sentimentality, comrade!" "War is war. The only good human being is a dead one."* 
Chapter V	Mollie is tempted away from the farm by a red-faced man who feeds her. Snowball and Napoleon grow increasingly hostile towards one another. As Snowball announces plans for a new windmill, Napoleon unleashes his dogs, which attack Snowball and chase him off the farm. The animals are anxious about this, but Squealer's passionate defence and the growl of the dogs is enough to assure them that 'Napoleon is always right.'	*"One of them all but closed his jaws on Snowball's tail, but Snowball whisked it free just in time. Then he put on an extra spurt and, with a few inches to spare, slipped through a hole in the hedge and was seen no more."* 

Year 7, Terms 1 & 2: Animal Farm

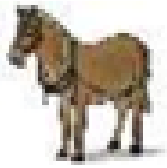
Plot & Key Quotations 2

George Orwell

Key Vocabulary

- Propaganda
- Tyrant
- Dictator
- Allegory
- Symbolism
- Rebellion
- Comrade
- Communism
- Slaughter
- Overthrow
- Commandment
- Equality
- Democracy
- Utopia

Scene-by-Scene Summary – Alongside key quotations from each scene.

Chapter VI	The animals work at a rapid pace to build the windmill, and their rations are cut. It is announced that the farm is now trading with humans, to the shock of the animals. It begins that the pigs have begun amending the commandments to suit their own interests. A storm destroys the windmill, yet Napoleon blames the destruction on the 'traitor Snowball.'	*"Comrades," he said quietly, "do you know who is responsible for this? Do you know the enemy who has come in the night and overthrown our windmill? SNOWBALL!"* 
Chapter VII	Snowball is blamed for more and more failures, which the humans attribute to planning errors. Hens eggs are now sold, which makes the hens rebel. Napoleon holds a meeting in which several animals are murdered by the dogs for their apparent treasons against the farm. It is revealed 'Beasts of England' may no longer be sung.	*One Sunday morning Squealer announced that the hens, who had just come in to lay again, must surrender their eggs. Napoleon had accepted... a contract for four hundred eggs a week."* 
Chapter VIII	More of the commandments appear to change, but the animals are persuaded that this is not the case. Napoleon has now taken the title of 'Leader' and has multiple other honours. Trading with humans intensifies. A further battle with humans takes place, with the windmill destroyed, several animals killed, and Boxer injured. The pigs begin drinking alcohol.	*"He called the animals together and told them that he had a terrible piece of news to impart. Comrade Napoleon was dying!"* 
Chapter IX	Animal Farm is named a republic and Napoleon unanimously named the president. Moses the raven returns and speaks of Sugarcandy Mountain. Boxer grows frailer and one day collapses. The pigs announce that he will be taken to hospital, but Benjamin reads on the van that he is in fact being taken to a slaughterhouse. Squealer announces that he died at the hospital, and that the van had only just been bought by the hospital.	*"Boxer!" cried Clover in a terrible voice. "Boxer! Get out! Get out quickly! They're taking you to your death!"* 
Chapter X	Years pass by. Many animals die and few can remember the rebellion. Only the pigs seem richer, yet all animals remain proud of being on Animal Farm. The pigs begin walking on two legs. Humans come over for a meeting and commend how hard the pigs make the animals work, for so little rations. The name Animal Farm is returned to 'Manor Farm.' The animals can no longer differentiate between people and pigs.	*"Somehow it seemed as though the farm had grown richer without making the animals themselves any richer..." "All animals are equal, but some animals are more equal than others."* 

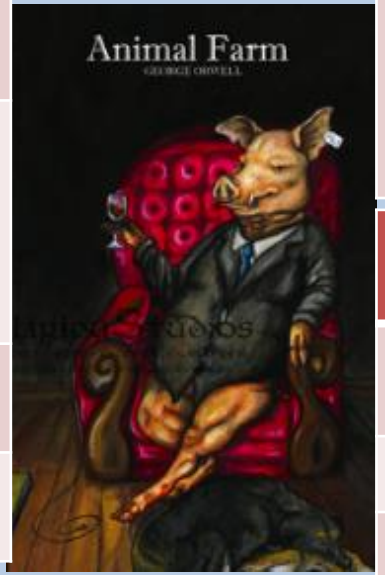
Year 7, Terms 1 & 2: Animal Farm

KEY TERMINOLOGY

George Orwell

STRUCTURAL TERMINOLOGY

KEY TERMINOLOGY	DEFINITION
Contrast	Where something is strikingly different from something else – used by writers for effect.
Juxtaposition	Two contrasting things/ideas being seen or placed close together for impact.
Foreshadowing	An indication of something that will happen in the future, often used as a literary device to hint at future plot developments
Focus Shifts	Where a reader is introduced to different things/ideas by a writer – our attention is moved from one to another e.g. setting to character, outside location to inside location
Zoom	Zoom in – where the writing takes you from something vague, to something very detailed (for example, describing an assembly in general terms to then describing, in detail, the person speaking at the front). Zoom out – the opposite. If in doubt, think of how a camera moves when filming…
Chronological	A record of events starting with the earliest and following the order in which they occurred.
Dialogue	Conversation between two or more people as a feature of a book, play, or movie.



LANGUAGE TERMINOLOGY

KEY TERMINOLOGY	DEFINITION
Noun	The name of a person, place or thing For example: The **teacher…**
Adjective	Describes the noun For example: The **old** teacher…
Verb	An action word – a doing word For example: The old teacher **spoke…**
Adverb	Describes how a verb (an action) is carried out). Often, but not always, end in –ly). For example: The old teacher spoke **loudly**.

RHETORICAL DEVICES
APE FOR REST

Anecdote	Pronouns	Emotive Lang
Fact	Opinion	Repetition
Rhetorical Question	Experts	Statistics
Triples		

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

- Sparx.com
- CorbettMaths.com
- Trafalgar Maths Site
- Maths Genie
- On Maths

Year 7 Maths Term 1 Sequences

Keywords

Sequence: items or numbers put in a pre-decided order
Term: a single number or variable
Position: the place something is located
Rule: instructions that relate two variables
Linear: the difference between terms increases or decreases by the same value each time
Non-linear: the difference between terms increases or decreases in different amounts
Difference: the gap between two terms
Arithmetic: a sequence where the difference between the terms is constant
Geometric: a sequence where each term is found by multiplying the previous one by a fixed non zero number

Linear and Non Linear Sequences

Sequences usually follow a pattern and when you discover the pattern you can determine the following things:

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

Linear Sequences – increase by addition or subtraction and the same amount each time.
Non-linear Sequences – do not increase by a constant amount – quadratic, geometric and Fibonacci.

- Do not plot as straight lines when modelled graphically
- The differences between terms can be found by addition, subtraction, multiplication or division.

Fibonacci Sequence look out for this type of sequence

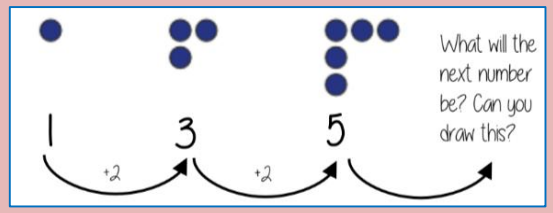
0 1 1 2 3 5 8 ...

Each term is the sum of the previous two terms.

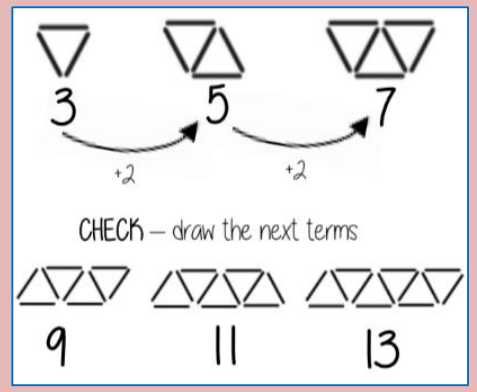
Draw and continue a sequence

Sparx M241

Count the number of circles or lines in each image



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



Predictions:

Look at your pattern and consider how it will increase.
e.g. How many lines in pattern 6?

Prediction 13
If it is increasing by 2 each time...

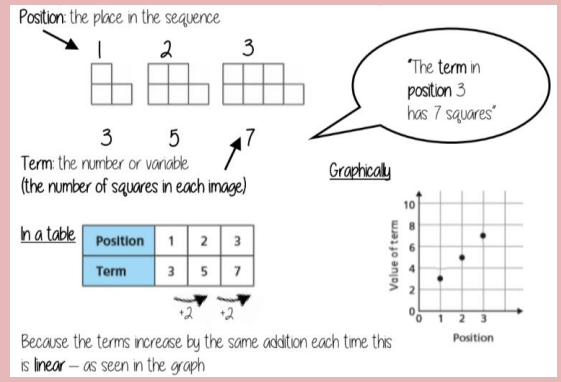
in 3 more patterns
there will be 6 more lines

Explain term-to-term rule

Sparx M381

It is How you get from term to term.
Try to explain this in full sentences not just with mathematical notation.
Use key maths language e.g. doubles, halves, multiply by two, add four to the previous term etc.
To explain a whole sequence you need to include a term to begin at ...

Sequence in a table and graphically



Continue Linear Sequences

7, 11, 15, 19 ...

How do I know this is a linear sequence?

It increases by adding 4 to each term.

How many terms do I need to make this conclusion?

At least 4 terms
Two terms only shows one difference not if this difference is constant. (a common difference).

How do I continue the sequence?

You continue to repeat the same difference through the next positions in the sequence

Continue non-linear Sequences

1, 2, 4, 8, 16...

How do I know this is a non-linear sequence?

It increases by multiplying the previous term by 2.
this is **a geometric** sequence because the constant is multiply by 2

How many terms do I need to make this conclusion?

At least 4 terms–
Two terms only shows one difference not if this difference is constant. (a common difference).

How do I continue the sequence?

You continue to repeat the same difference through the next positions in the sequence.

Year 7 Maths Term 1 - Algebra

What do I need to be able to do?

- **Understanding what is Algebra and how do I use correct notation**
- **Recognise the difference between an expression, equation, formula and identity**
- **Simplifying Expressions**
- **Forming and solving equations**
- **Expanding and Factorising brackets**
- **Substitution into single and two step functions**
- **Form sequences from expressions**
- **Represent functions graphically**

Key words

Data
Algebra
Equation
Expression
Formula
Identity
Variable
Coefficient
Expand
Factorise
Substitution
Factors
Operations
Terms
Sequences
Graphs
Functions
Input
Output
Commutative
Linear

What is Algebra and how do I use correct notation

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

□ – 2 = 4

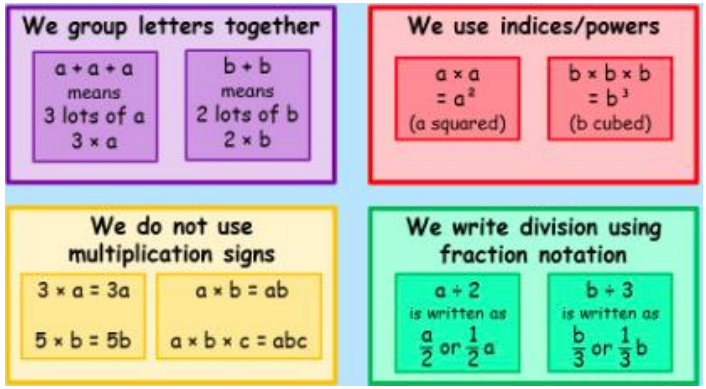
The empty box represents the unknown number in this sum. We replace this box with a letter, a variable. This is helpful when talking about the sum and when the problem contains more than one unknown.

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

Sparx M813

Key rules:

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



Expression, Equation, Formula or Identity

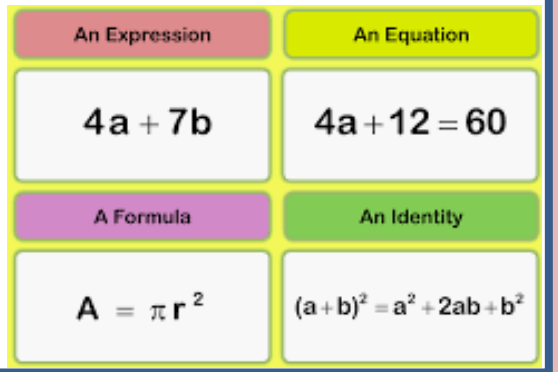
Expression – An **expression** is formed of variables and numbers, combined with **operation** signs and brackets. Each part of an expression is called a **term**. In the expression $3n + 5$ the **terms** are $3n$ and 5 and the operation is +. An expression does NOT have an equals sign.

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

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

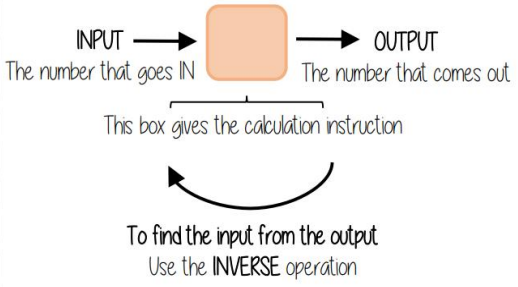
Identity – When the expressions are said to be *identically equal.* The expressions are linked with the symbol ≡.
For example, $4(a + 1) \equiv 4a + 4$ is an identity, because the expressions $4(a + 1)$ and $4a + 4$ always have the same value, whatever value a takes and they are the same expression just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

Example of each:

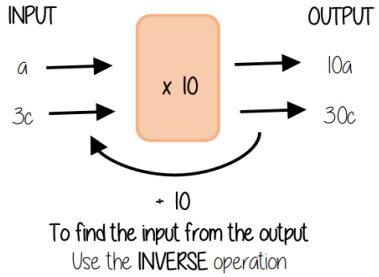


Year 7 Maths Term 1 Algebra

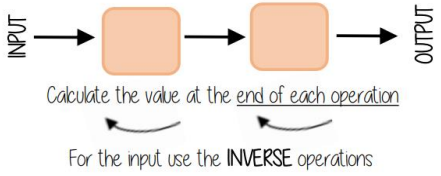
Function Machines



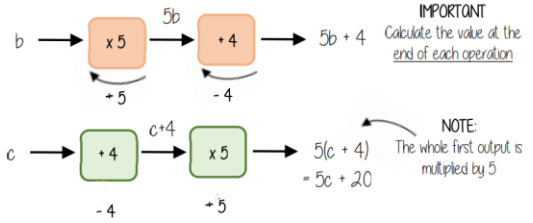
Examples with algebra



2 Step Function Machines



Examples with algebra



Using letters to represent numbers

5 + 5 + 5	y + y + y + y	20 - h
3 x 5	y x 4	$\frac{20}{h}$
5 x 3	4 x y	
	4y	
Addition and multiplication can be done in any order	4 lots of 'y'	20 shared into 'h' number of groups
Commutative calculations		

Substitution into expressions

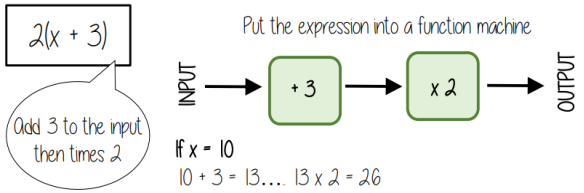
4y ← 4 lots of 'y'

If y = 7 this means the expression is asking for 4 'lots of' 7

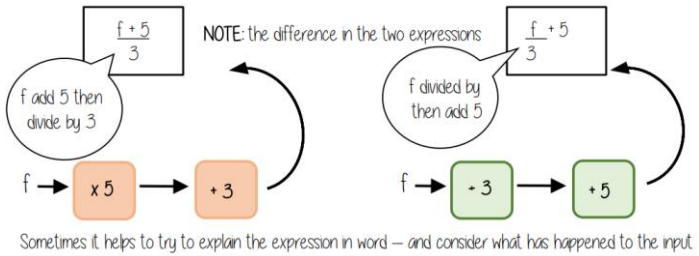
4 x 7 OR 7 + 7 + 7 +7 OR 7 x 4 = 28

eg: $y - 2$
$= 7 - 2 = 5$

Examples with algebra



Find functions from expressions



Graphs

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

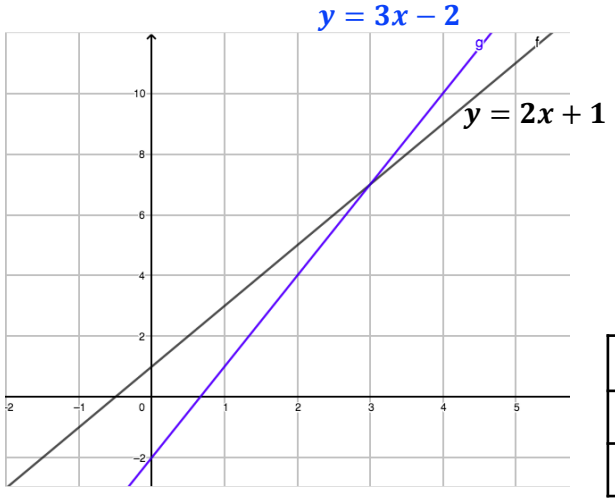
Sparx M618, M932

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

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

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

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



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

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

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

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

Year 7 Maths Term 1 Algebra

Simplifying Expressions

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

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

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

For example:

Sparx M795, M531

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

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

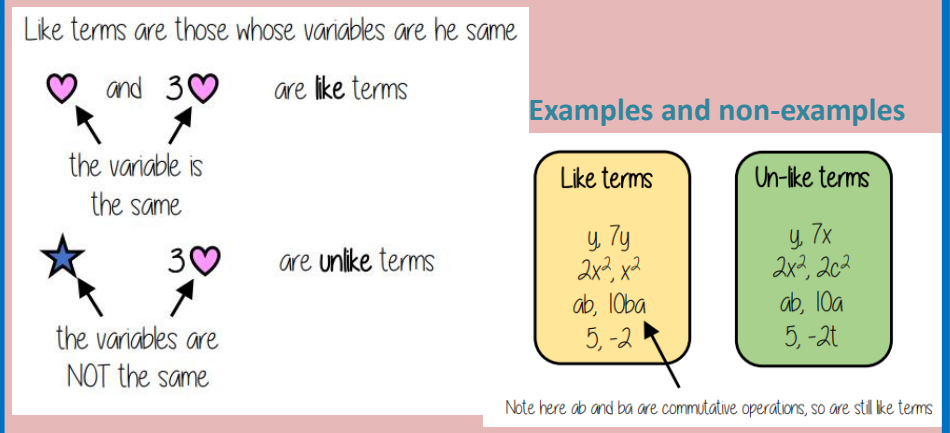
$3a + 2a + 4b + 5b =$

$5a + 9b$

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

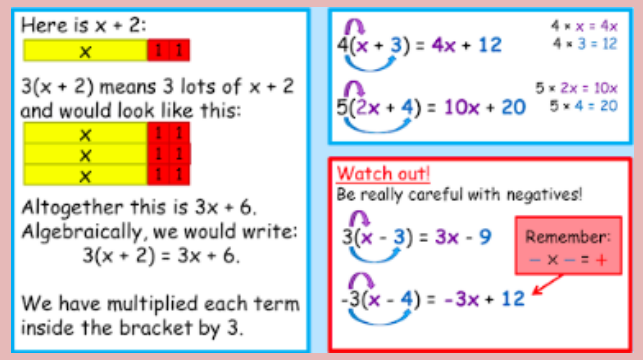
$3x^2 - 5x^2 + 2xy - 6xy =$

$-2x^2 - 4xy$



Expanding

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



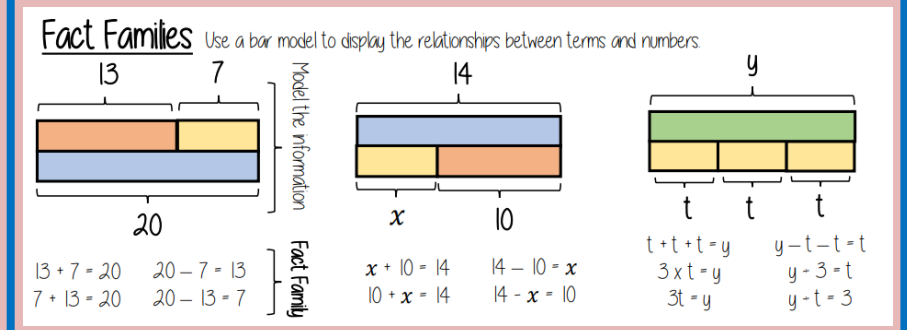
Sometimes there are multiple brackets, so the question will ask you to **Expand & Simplify**:

Sparx M237

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

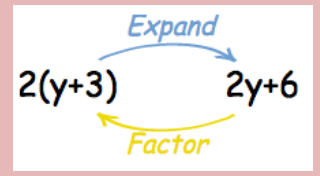
$5x+15+6x-24$

$11x-9$



Factorising

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



Example:

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

4x is 4 x x

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

Example:

Sparx M100

$4x + 6 = 4 \times x + 6$

$= 2 \times 2 \times x + 2 \times 3$

$= 2 \times 2x + 2 \times 3$

$= 2(2x+3)$

Sparx M704

Place Value System

Year 7 Maths Terms 1 & 2 Number

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.

Rounding to the nearest..

Sparx M111

- Decide which is the last digit to keep, eg if you are rounding to the nearest ten, focus on the number in the tens column.
- Leave it the same if the next digit is less than 5 (rounding down)
- But increase it by 1 if the next digit is 5 or above (rounding up)

Example

Round 293 to the nearest 10

The 9 is in the tens column, the number after it is 3 which is less than 5 so we leave the 9 the same.

Answer: **290**

Example

Round 1 572 to the nearest 100.

The 5 is in the hundreds column, the number after it is 7, which is more than 5, so we increase 5 by 1.

Answer: **1 600**

Inequalities

- $>$ is more than ...
- $<$ is less than ...
- $\geq$ is more than or equal to...
- $\leq$ is less than or equal to...

Keywords:

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

Examples

Sparx M705

a) 342 > 339
b) 1091 < 1909
c) -5 > -9
d) -4 < -1
e) $2 < a \leq 7$

"The crocodile always eats the bigger number!"

LEFT HAND ...Less than...

Examples with Decimals

Sparx M522

a) 3.55 > 3.54
b) 0.909 < 0.91
c) 2.135 < 2.3

Although 2.135 has three decimal places, it only has 1 tenth, whereas 2.3 has 3 tenths and is therefore larger.

Rounding to a decimal place (d.p.)

Sparx M431

Decimal places are the digits after the decimal point.

3 . 2 6 4

(1st Decimal Place, 2nd Decimal Place, 3rd Decimal Place)

3.264 to 1 dp = 3.3

The first decimal place is the first number after the decimal point, in this case the 2. After the 2 is a 6, which is bigger than 5 so we round the 2 up to a 3.

3.264 to 2 dp = 3.26

The second decimal place is 6. Because there is a 4 after, which is less than 5, we keep the 6 the same.

Rounding to significant figures (s.f.)

Sparx M994, M131

This rounds to the most important figure in a number. To round to 'so many' significant figures, we start at the first non-zero number and count from left to right.

7 639 to 1 sf = 8000

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

10 240 to 3 sf = 10 200

The 3rd significant figure is 2, there is a 4 after it, which is less than 5 so we keep the 2 the same.

0.0749 to 2 sf = 0.075

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

Multiplying by powers of 10

x 10 = move digits 1 place to the left
x 100 = move digits 2 places to the left
x 1000 = move digits 3 places to the left….

Example Sparx M113

54.2 x 10 = 542

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

Dividing by powers of 10

÷ 10 = move digits 1 place to the right
÷ 100 = move digits 2 places to the right
÷ 1000 = move digits 3 places to the right….

Example Sparx M113

235 ÷ 10 = 23.5

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

1/10	× 0.1	is the same as	÷ 10
	÷ 0.1	is the same as	× 10
1/100	× 0.01	is the same as	÷ 100
	÷ 0.01	is the same as	× 100
1/1000	× 0.001	is the same as	÷ 1000
	÷ 0.001	is the same as	× 1000

Multiplying doesn't always make a number larger.

$7 \times 0.1 = 7 \times \frac{1}{10} = 7 \div 10 = 0.7$

Dividing doesn't always make a number smaller.

$4 \div 0.01 = 4 \div \frac{1}{100} = 4 \times 100 = 400$

Standard Form

Sparx M719, M678

Standard form is a system of writing numbers which can be particularly useful when working with very large numbers or very small numbers.
Standard from is written in the form

$$a \times 10^n \text{ (where } 1 < a \leq 10\text{)}$$

Example

What is 86 000 in standard form?
86 000 can be written 8.6 x 10 000
$10\,000 = 10 \times 10 \times 10 \times 10 = 10^4$
So 86 000 = 8.6 x 10^4
(You would have to move 8.6 four place values larger to get back to 86000)

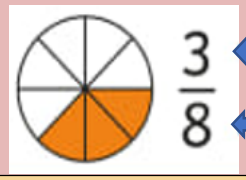
Example

What is 0.005 in standard form?
0.005 can be written 5 x 0.001
$0.001 = \frac{1}{1000} = 10^{-3}$
So 0.005 = 5 x 10^{-3}
(You would have to move the 5 three place values smaller to get back to 0.005)

10 000	=	10^4
1 000	=	10^3
100	=	10^2
10	=	10^1
1	=	10^0
0.1	=	10^{-1}
0.01	=	10^{-2}
0.001	=	10^{-3}
0.0001	=	10^{-4}

A negative power doesn't mean that the number is negative, it means we have gone from multiplying to dividing.

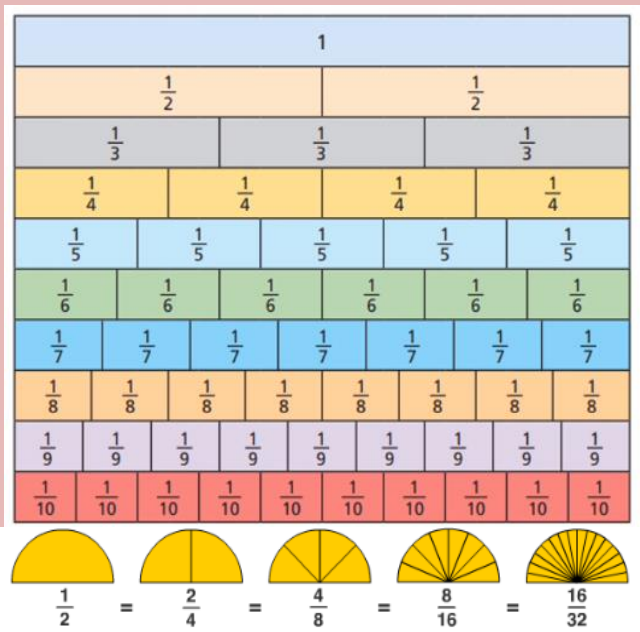
Year 7 Maths Term 2 - Fractions



Numerator - how many equal parts are needed

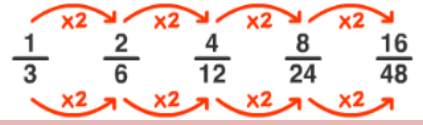
Denominator - how many equal parts are there in the whole

Equivalent Fractions



$\frac{1}{2} = \frac{2}{4} = \frac{4}{8} = \frac{8}{16} = \frac{16}{32}$

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



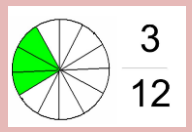
Sparx M410

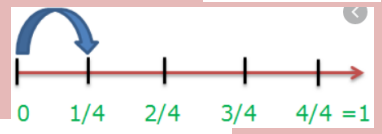
What do I need to be able to do?

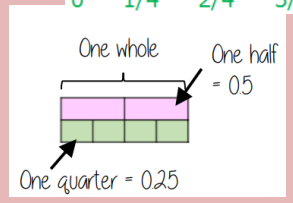
To determine and generate equivalent fractions
To write fractions in their simplest form
To convert between improper fractions and mixed numbers
To add and subtract fractions
To multiply and divide fractions
To find a fraction of an amount
To find a whole given a fractional amount

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

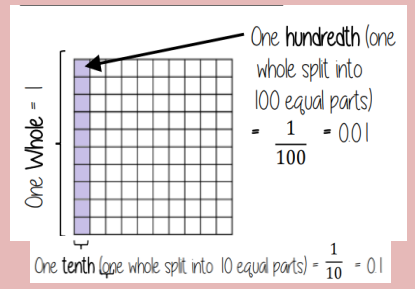
0.25 $\frac{1}{4}$







25%



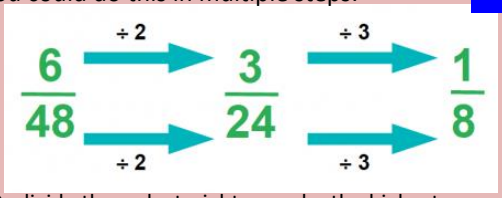
Simplifying Fractions

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

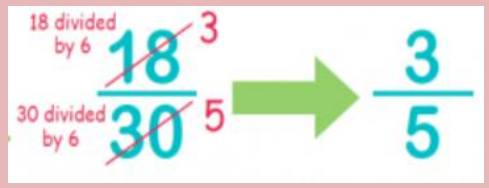
To simplify a fraction, we divide the numerator and denominator by the same number, a common factor.

You could do this in multiple steps:

Sparx M671



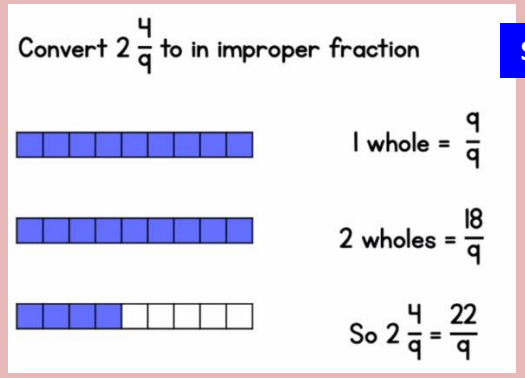
Or divide through straight away by the highest common factor:



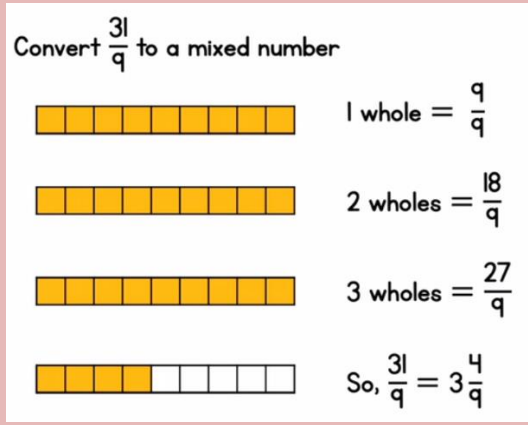
Mixed Numbers and Improper Fractions

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

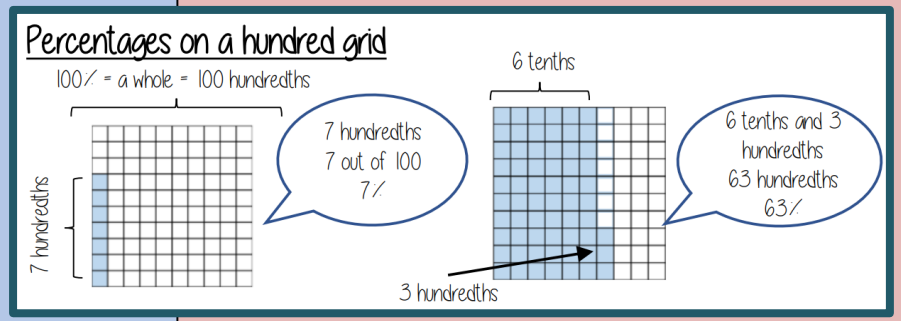
Sparx M601



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
Mixed Number
Improper
Reciprocal
Lowest Common Multiple

You need to be able to:

Convert between simple fractions, decimals and percentages.

Convert between fractions and recurring decimals and percentages.

Compare fractions, decimals and percentages.

Order fractions, decimals and percentages by converting.

Percentage

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

$45\% = {}^{45}/_{100} = 0.45$

Sparx M264

$6\% = {}^{6}/_{100} = 0.06$

Decimals

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

$0.35 = 35\%$

$0.07 = 7\%$

Sparx M264

Fractions

Can you write the fraction over 100?

${}^{63}/_{100} = 0.63$

${}^{11}/_{25} = {}^{44}/_{100} = 0.44$

Sparx M958, M264, M922

${}^{1}/_{2} = 0.5 = 50\%$

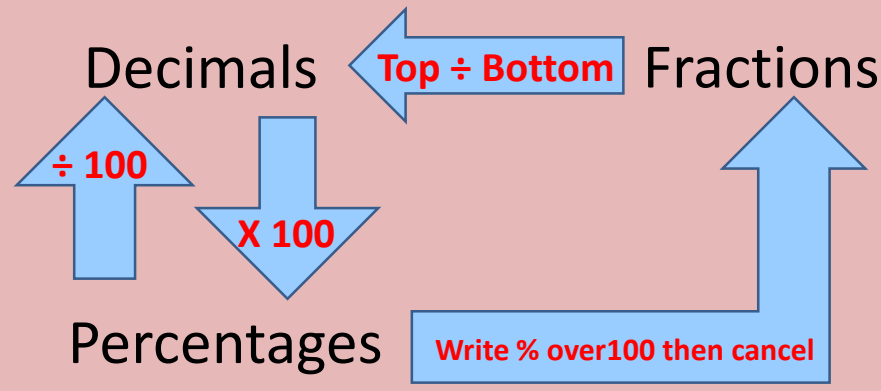
${}^{3}/_{5} = 0.6 = 60\%$

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

Sparx M264

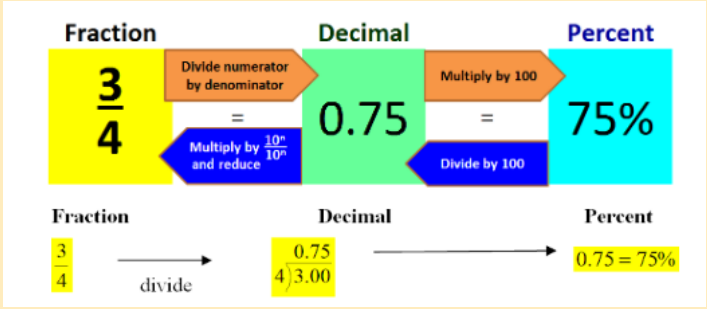
Some FDP to know

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



Compare FDP

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



Example: Which is bigger 68% or 0.7?

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

0.7 = 70%

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

Which is bigger 68% or 70%?

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

Example: Which is bigger $^{13}/_{20}$ or 0.67 ?

Sparx M335

$^{13}/_{20} = {}^{65}/_{100}$ $\quad 0.67 = {}^{67}/_{100}$

0.67 is bigger.

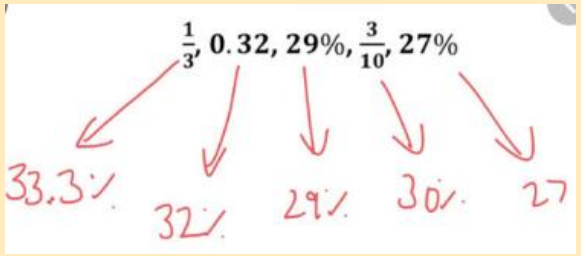
Writing both over 100 makes it easier to compare.

Order fractions, decimals and percentages.

Key fact: convert everything to the same representation.

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

Example



Sparx M264, M922, M958

Another Example: $^{1}/_{2}$, 0.19, $^{1}/_{3}$ 0.3, 28%

Changing them to percentages:

$^{1}/_{2}$ = 50%, 0.19 = 19%, $^{1}/_{3}$ = 0.333... = 33.3...%, 0.3 = 30%

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

From smallest to largest:

19%, 28%, 30%, 33.33%, 50%

Sparx M264

Answer:

0.19, 28%, 0.3, $^{1}/_{3}$, $^{1}/_{2}$

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

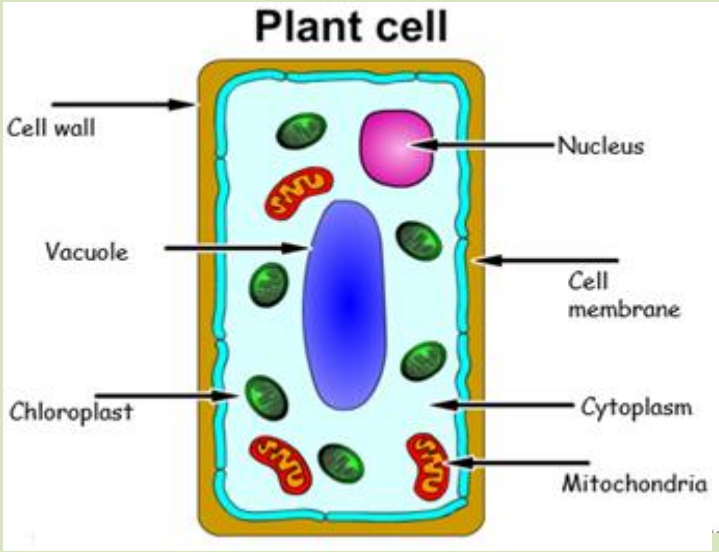
Key

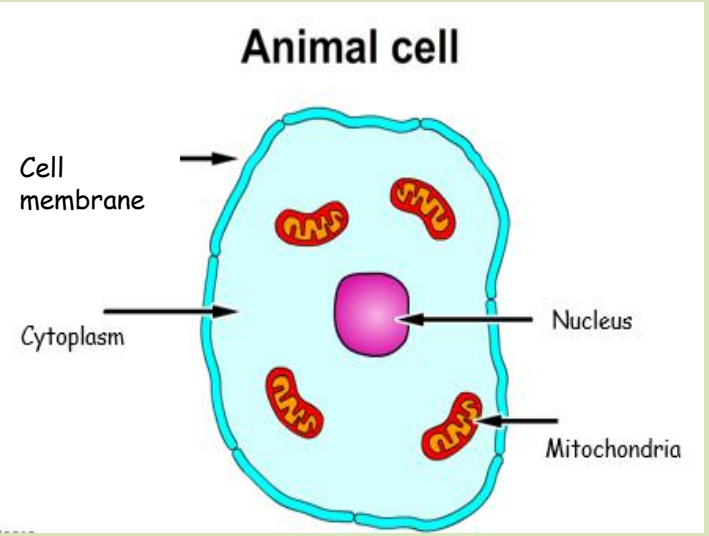
relative atomic mass
atomic symbol
name
atomic (proton) number

* 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.

Year 7 Biology - Cells and systems	
Term	Definition
Antagonistic muscles	Pairs of muscles that contract and relax in opposition to each other allowing movement
Cardiac	Relating to the heart
Diffusion	The passive movement of particles from an area of high concentration to an area of low concentration
Joint	Structure at which two parts of the skeleton are fitted together
Ligament	A short band of tough, flexible fibrous connective tissue which connects bone to bone
Magnification	The enlargement of an object by an optical instrument such as a microscope
Multicellular	An organism that is made up of different types of cells
Organ	Tissues grouped together to perform a particular function
Organelle	The small parts that make up a cell
Organism	An individual living thing such as a dog, human, oak tree
Respiration	The process of breaking down glucose to release energy
Tendon	A flexible but inelastic cord of strong fibrous collagen tissue connecting muscle to bone
Tissue	Group of similar cells working together to perform a particular function
Unicellular	A living thing that is made of one cell only e.g. bacteria, yeast



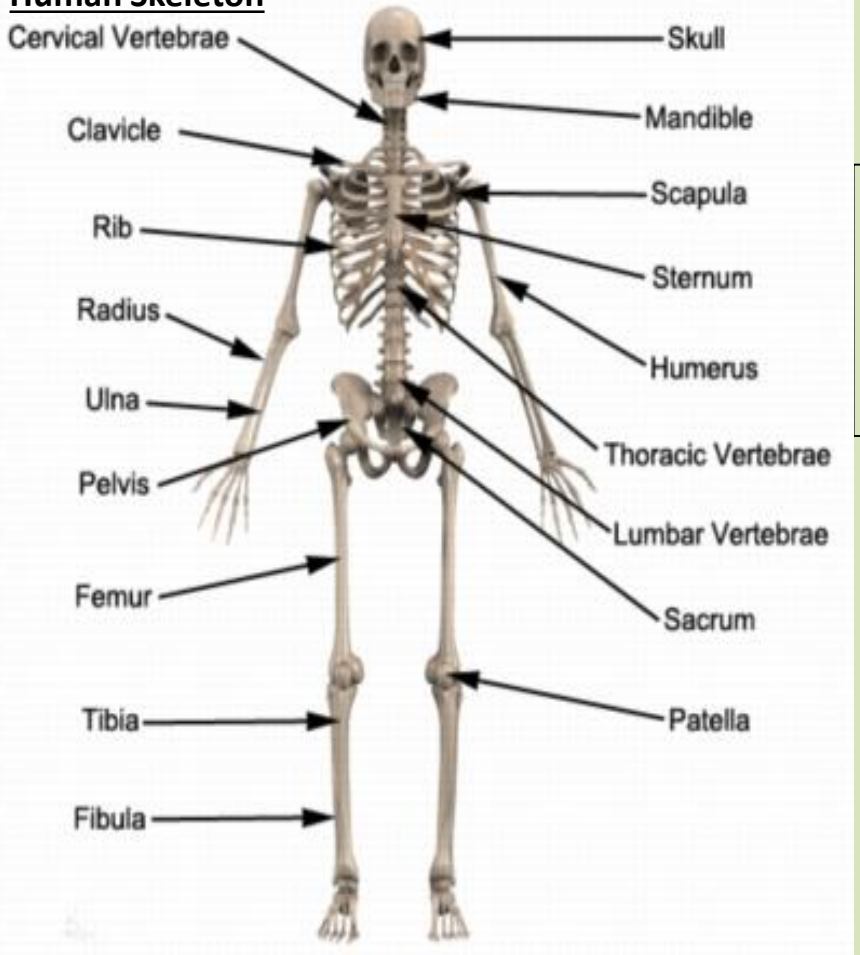


Cell organelle	Function	
Cell membrane	Controls what substances can get into and out of the cell.	Plant and animal cells
Cytoplasm	Jelly-like substance, where chemical reactions happen. In plant cells there's a thin lining, whereas in animal cells most of the cell is cytoplasm.	Plant and animal cells
Nucleus	Controls what happens inside the cell. Carries genetic information. In exams don't call the nucleus the 'brain' of the cell. That is not a good description and will not get you marks.	Plant and animal cells
Mitochondria	Where respiration happens – energy is released	Plant and animal cells
Chloroplast	Where photosynthesis happens – chloroplasts contain a green substance called chlorophyll.	Plant cells only
Vacuole	Contains a liquid called cell sap, which keeps the cell firm.	Plant cells only
Cell wall	Made of a tough substance called cellulose, which supports the cell.	Plant cells only

Year 7 Biology - Cells and systems

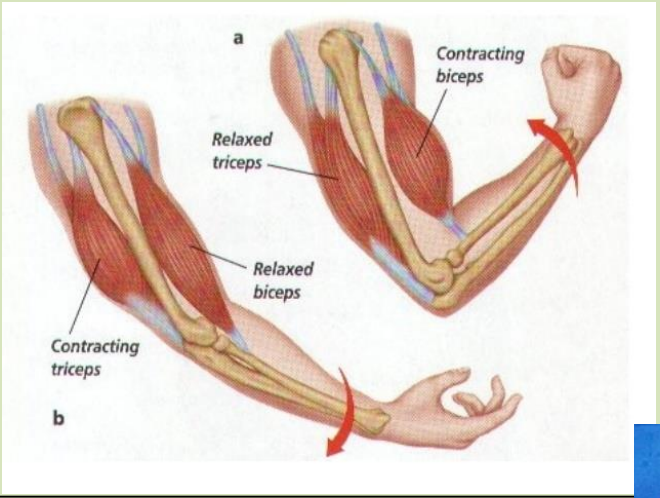
1. 4 main roles of the skeleton are: movement, support, protection and production of blood cells.
2. Muscles contract and relax antagonistically (opposite each other)
3. Tendons connect <u>muscle to bone</u>
4. Ligaments connect <u>bone to bone</u>

Human Skeleton



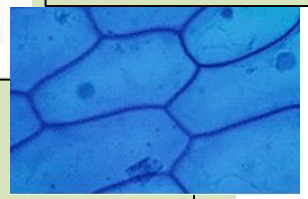
Antagonistic muscles

Muscles can only contract and relax (NOT push).
To move they must work antagonistically in pairs



Method for creating onion cell microscope slide

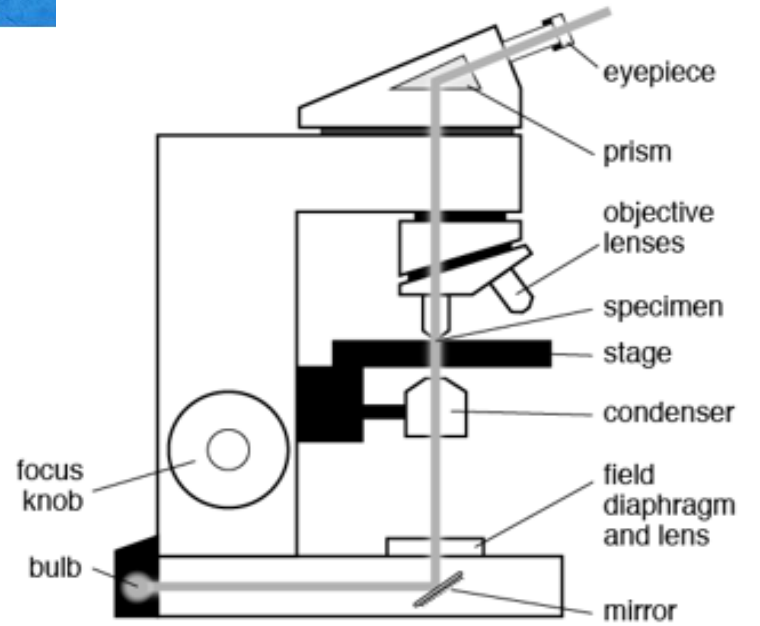
1. Collect a piece of onion and remove one of the onion layers.
3. Using forceps, carefully peel off the inner skin of the onion layer.
4. Place the onion skin onto a clean glass slide. Use your forceps to keep the onion skin flat on the glass slide.
5. Using a pipette, add one or two drops of dilute iodine solution on top of the onion skin.
6. Place a coverslip on top of the skin.
7. Place the slide on the microscope for observation using 4 x objective to find the cells
8. Once the cells have been found, they can then be viewed at higher magnification



Hazard
A hazard is something that can cause harm
Risk
A chance that the hazard will cause someone harm
Precaution
Rules put in place to reduce the risk of harm

In multicellular organisms, different cells are organised to perform different functions.
Cells are organised into **tissues**
Tissues are organised into **organs**
Organs are organised into **organ systems** such as respiratory system and digestive system

The microscope



Magnification

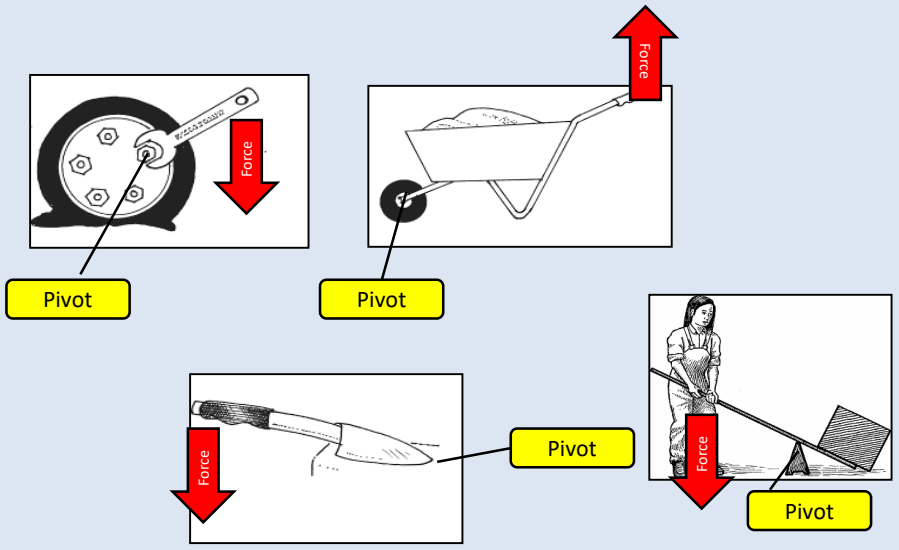
Total magnification = magnification of eye piece lens x magnification of objective lens

KS3 Physics – Forces

A **contact force** is a push or a pull on one object by another object that is touching it.

A force that pushes or pulls on an object without touching it is called a **non-contact force.**

A force acting about a pivot is called a moment.



moment = force × distance from pivot

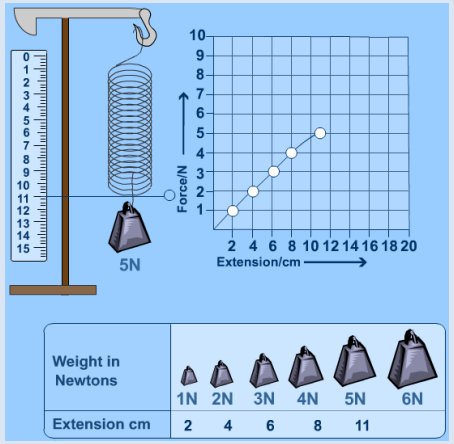
(Nm or Ncm) (N) (cm or m)

Types of force:

Tension force	***Forces pulling apart a rope, string or wire***
Frictional force	***Force acting in the opposite direction to the movement of an object***
Air Resistance force	***Friction between air articles and another object***
Electrostatic force	***Forces between electrically charged particles***
Thrust force	***Act of pushing with force***
Weight force	***Force of gravity x mass of object***
Upthrust force	***Upwards force exerted on a object in a fluid***
Magnetic force	***Force that pulls materials together***
Normal Reaction force	***Force exerted from a surface on an object***

Forces can change

- the **speed** of an object, accelerate or decelerate
- the **direction** that an object is moving in
- the **shape** of an object.



Hooke's Law

The gradient of the graph is what we call the spring constant, k.

The spring constant is a measure of the stiffness of a spring

$k=F/x$

K = spring constant

F = force

x = extension

Pressure = Force (N) / Area (m^2 or cm^2)

N/m or Pascals

High pressure

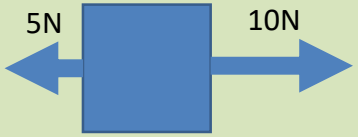
Decreasing the surface area, increases the pressure

Low pressure

If two forces acting on an object are equal and in opposite directions, the resultant force is 0N.

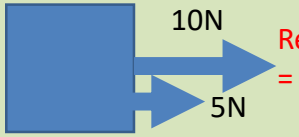
Resultant force = 0N

If two forces act in opposite directions, to work out the resultant force you must subtract one from the other.



Resultant force = 5N right

If two forces act in the same direction, to work out the resultant force you must add them together.



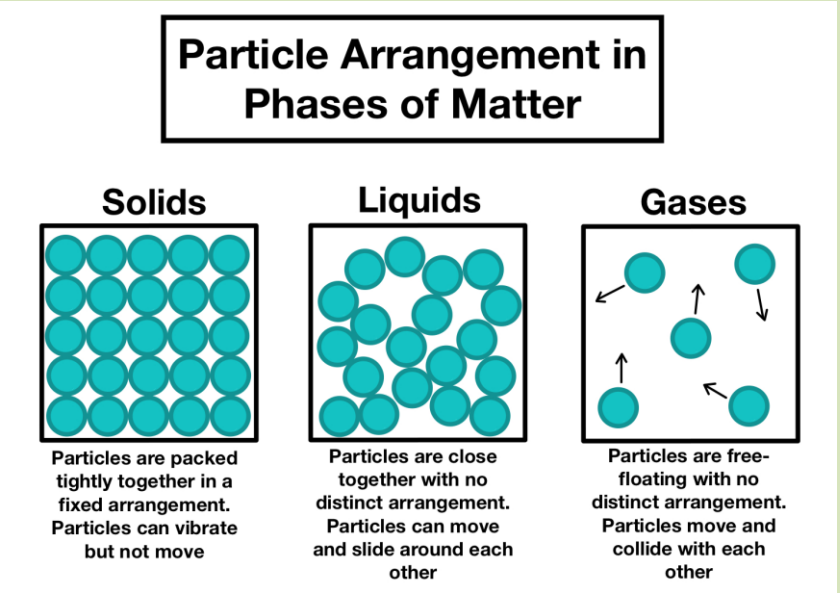
Resultant force = 15N right

Streamlined objects easily push the air out of the way. They have a low air resistance.

Objects that are not streamlined have a high air resistance.

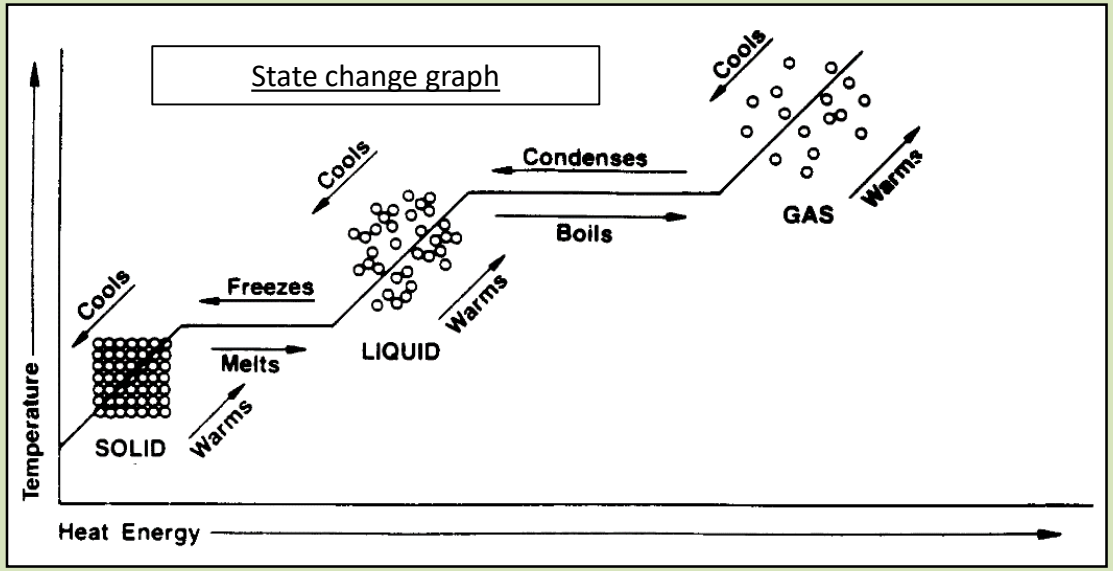
KS3 Chemistry Unit 1 – Matter, atoms and elements

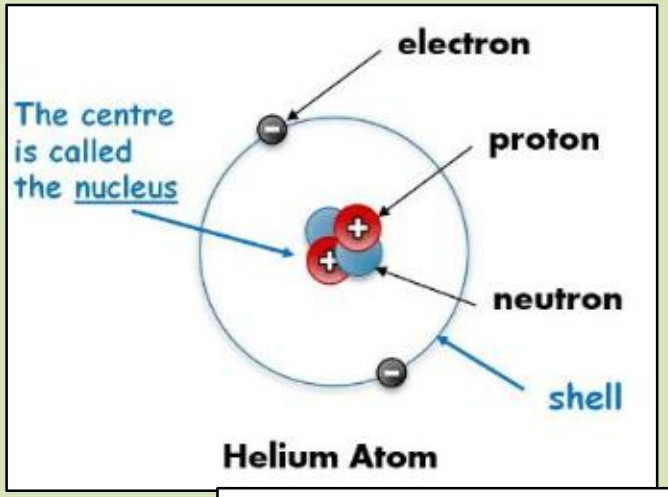
What are the three main states of matter?	**Solid, liquid, gas**
What is melting?	When a solid turns into a liquid.
What is freezing?	When a liquid turns into a solid.
What is evaporation?	When a liquid turns into a gas at its surface.
What is boiling?	When a liquid turns into a gas throughout the substance.
What is condensation?	When a gas turns into a liquid.
What is sublimation?	When a solid turns into a gas without becoming a liquid first.
What is deposition?	When a gas turns into a solid without becoming a liquid first.
What is a melting point?	The temperature that a solid turns into a liquid.
What is a freezing point?	The temperature that a liquid turns into a solid.
What is a boiling point?	The temperature that a liquid turns into a gas throughout the substance.
What is a condensing point?	The temperature that a gas turns into a liquid.
What is a reactant?	The chemicals that react in a chemical reaction.

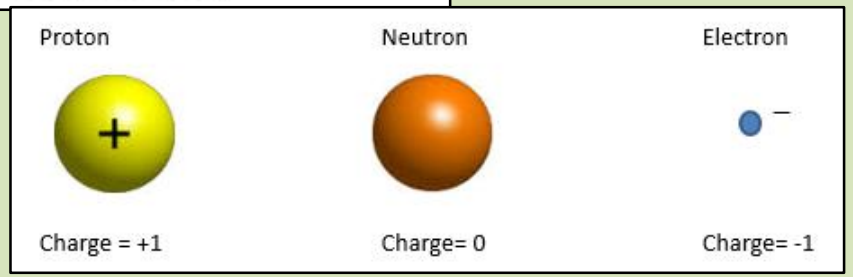


What are the arrangements of particles in the three states of matter?	Solid: particles in contact and in a regular arrangement. Liquid: particles in contact and in a random arrangement. Gas: particles not in contact and in a random arrangement.
What is the movement of the particles in the three states of matter?	Solid: particles vibrate on the spot. Liquid: particles flow past each other. Gas: particles move around the container very fast.
What is the compressibility of the particles in the three states of matter?	Solid and liquid: cannot be compressed easily. Gas: can be compressed easily.
How do the three states of matter behave in a container?	Solids: maintain their shape at the bottom of the container. Liquids: flows to fill the bottom of the container. Gas: fills the whole container.

Atom - The smallest particle that can be chemically broken down.
Molecule - Two or more atoms bonded together
Elements - Made from only one type of atom. All elements can be found on the periodic table.
Mixture - Two or more atoms and/or compounds not bonded but mixed together.
Compound - Made from two or more different types of atom.







Ice melts at 0°C
Water boils at 100°C
Water will be in a solid state (ice) -3°C
Water will be in a gas state (steam) at 103°C

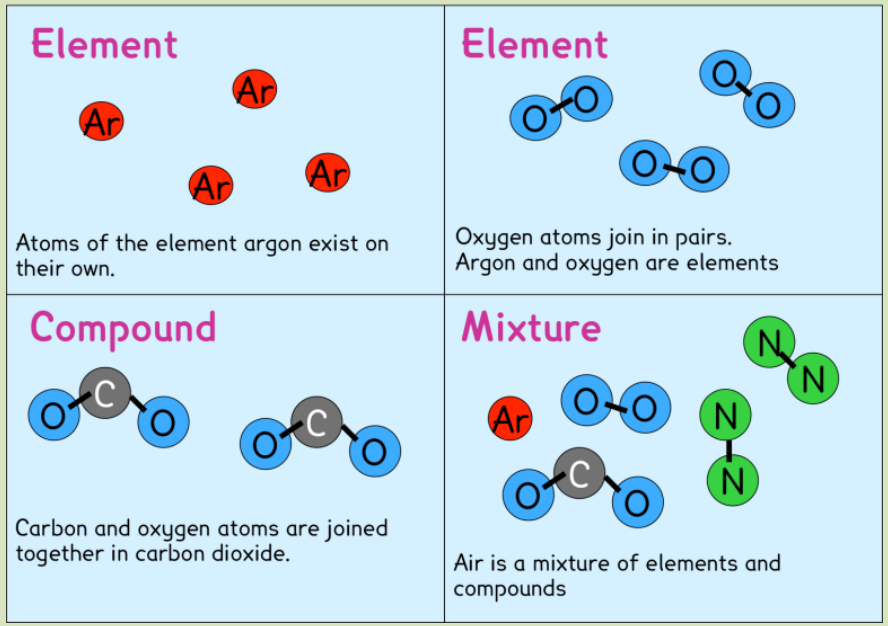
When three or more different elements combine, and one of them is oxygen, the ending will usually be something "–ate"

E.g. 1 calcium atom, 1 carbon atom and 3 oxygen atoms
calcium + carbon + oxygen → calcium carbonate

When two different elements combine the ending is usually something "–ide"
E.g. Magnesium + oxygen → magnesium oxide
E.g. Copper + oxygen → copper oxide

What is a product?	The new substances that are formed in a chemical reaction.
What is a word equation?	An equation showing the reactants and the products of a reaction: reactants → products

Blob diagrams to show different types of substance:

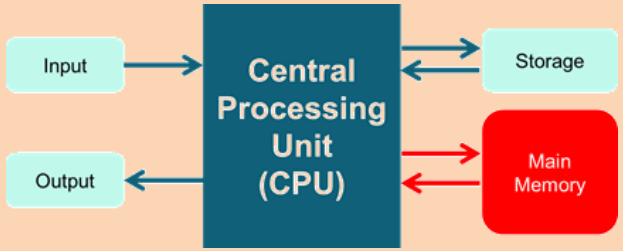


1. UNDERSTANDING COMPUTERS

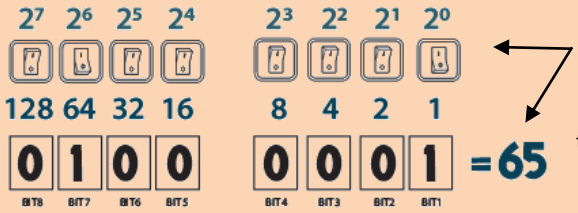
HARDWARE, SOFTWARE, & THE CPU

Hardware: Objects you can touch e.g. *Disks*, *disk drives*, *screens*, *keyboards*, *printers*, *boards* and *chips*

Software: refers to programs that run on a computer e.g. *Windows, MS Word, MS Excel, Google Chrome*

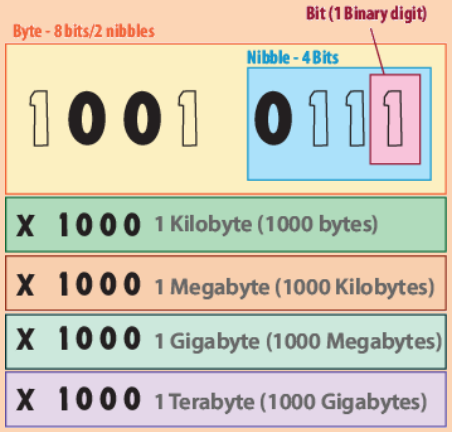


THE BINARY NUMBER SYSTEM



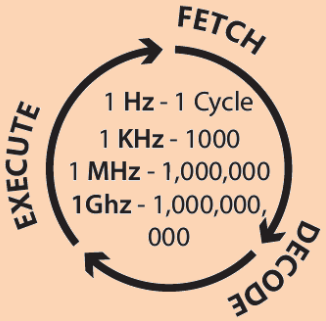
You can tell if a Binary number is Odd or Even by seeing if there is a 1 in the first bit (the one on the far right)

UNITS OF MEASUREMENTS AND COMBINATIONS



Number of Switches	Possible Combinations
1	2
2	4
3	8
4	16
5	32
6	64
7	128
8	256
9	512
10	1024

THE FETCH-DECODE-EXECUTE CYCLE



The Processor (CPU) **FETCHES** from Main Memory (RAM) the data and/or instructions which it then **DECODES** and finally **EXECUTES**. One iteration of this cycle is measured in 1 hz.

Modern computers today are measured in Ghz – which equates to billons of instructions per second.

BINARY ADDITION RULES

$0+0 = 0$
$0+1 = 1$
$1+0 = 1$
$1+1 = 10$ — CARRY THE 1
$1+1+1 = 11$ — CARRY THE 1

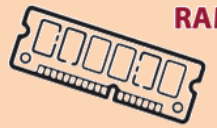
e.g.

	0	1	1	0	1	1	0	0
+	0	1	1	1	0	1	1	0
=	1	1	1	0	0	0	1	0
Carry row	1	1	1	1	1			

108 + 118 = 226

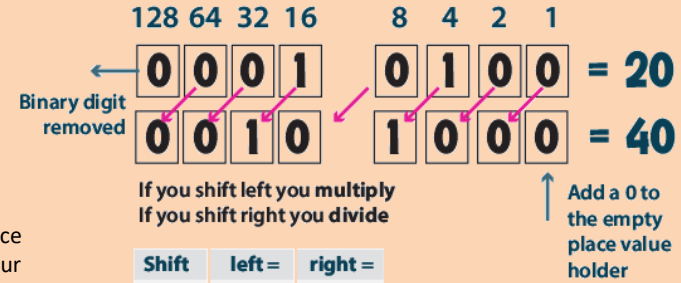
Binary addition is like addition you are familiar with. When you find that you don't have enough space in the place value you are in, you move over to the next place holder. For example, if I add 5 + 5 in our number system (denary), I create 10 which means I need a 1 in the 10s column and a 0 in the 1s column. In binary, if I add 1 + 1 I get 2, this means I would need to put a 1 in the 2 column and a 0 in the 1 column.

Memory (also known as Primary Storage) is divided into two main types: RAM and ROM. Other types include the registers and the cache.



	RAM	ROM
Purpose	Stores data and instructions during processing	Stores boot-up instructions set by the manufacturer
Volatility	Volatile, data lost without power	Non-volatile, data remains after power switched off
Read/Write	Read and write	Read only
Capacity	Usually several gigabytes	A few megabytes in size

BINARY SHIFTS

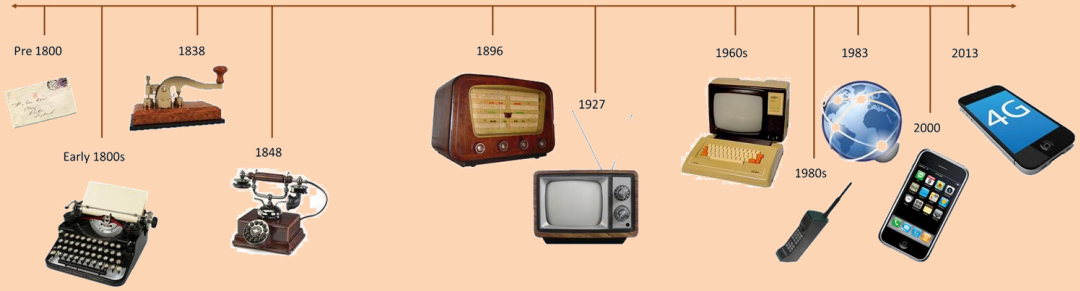


Shift	left =	right =
1	x 2	÷2
2	x 4	÷4
3	x 8	÷8
4	x 16	÷16
5	x 32	÷32

By moving a binary number to the left you increase by an order of 2, it is the reverse when you move it to the right.

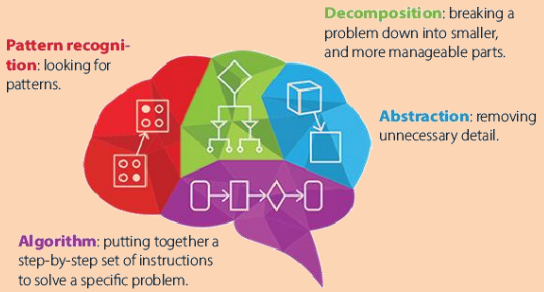
The key thing about technology convergence is the fact that Computers are getting faster, networks are capable of carrying data over greater distances and at high speed, and storage capacity is increasing all the time. When this is combined with the advances in micro and nanotechnology, we are seeing increasing amounts of technological breakthroughs on devices that are getting smaller and smaller. The applications of such technology are becoming very far reaching.

TIMELINE OF COMMUNICATION METHODS



2. COMPUTATIONAL THINKING

HARDWARE, SOFTWARE, & THE CPU



HARDWARE, SOFTWARE, & THE CPU

Electricity is in **Two States** (**on/off**). **On** can be represented by **1/TRUE** and **Off** can be represented by **0/False**.

Logical deduction is the process of working out if something is **TRUE** or **FALSE**. Logical thinking helps Computer Scientists work out how to solve problems. **George Boole** was an English mathematician who worked on **Logical Algebra** and **Boolean Algebra** (and the Boolean data type) is named after him. The Boolean Operators **AND**, **OR**, and **NOT** are also named after him.

VENN DIAGRAMS

Venn diagrams help us express Boolean expressions →

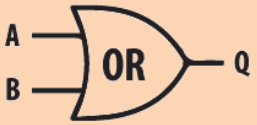
LOGIC GATES AND THEIR TRUTH TABLES

AND Gate

Q = A AND B

A	B	Q
0	0	0
1	0	0
0	1	0
1	1	1

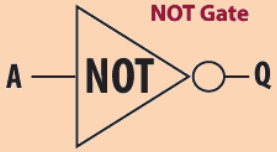
OR Gate



Q = A OR B

A	B	Q
0	0	0
1	0	1
0	1	1
1	1	1

NOT Gate



Q = NOT A

A	Q
0	1
1	0

COMPRESSION

Compression means reducing the amount of data needed to store or transmit something.

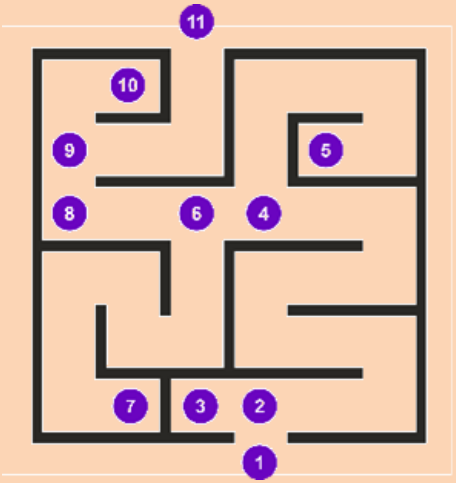
- ***Lossy compression*** means that some of the original data will be lost.
- ***Lossless compression*** means that none of the original data will be lost.

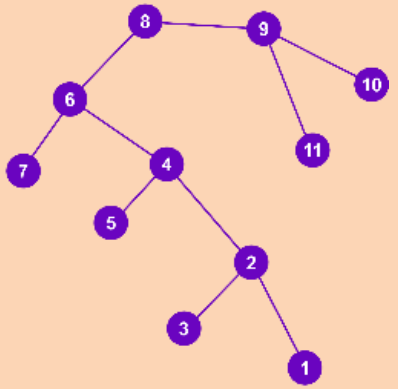
All lessons and support materials can be found under the **Computer Science** Tile.

All classwork and homework will be done in your **Class Team**.

All communication will be via **ClassCharts**.

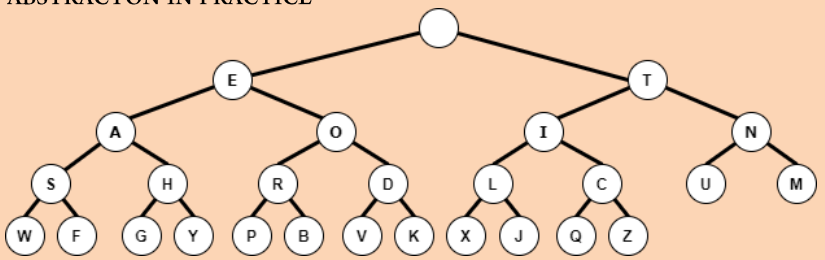
ABSTRACTON IN PRACTICE





We can use the principles of **Computational Thinking** (including **Abstraction** and **Decomposition**) to aid us in the solving of a problem like a maze. This allows us to then see the shortest path by using a Graphing technique. From this point onwards, we can apply the solution to solving a maze to everyday activities like routing data through a network, or plotting the most effective route using GPS.

ABSTRACTON IN PRACTICE

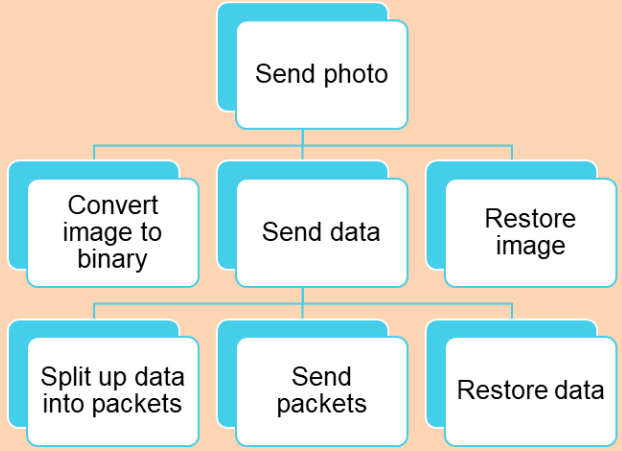


Again, using **Computational Thinking** we can analyse the most common letters in the alphabet to create a more efficient blink-typing system for people who have severely restricted mobility. By winking with your left or right eye, you can quickly access the most common letters and be within the least common letters within four winks.

DECOMPOSITION IN PRACTICE

By breaking down the act of sending a Photograph over the Internet, we can see what would be required in order to create a system that will send and receive images over a network.

The four main pillars of Computational Thinking are: Abstraction, Decomposition, Pattern Recognition, & Algorithm Design.



History Term 1 : Anglo-Saxon England & 1066

Timeline

410AD – Roman army abandons Britain
600AD – The Angles and Saxons arrive in England
793AD – Vikings attack the monastery on Lindisfarne
871AD – Alfred the Great is crowned King of Wessex
878AD – Alfred the Great wins the Battle of Edington
899AD – Alfred the Great dies
937AD – Athelstan wins the Battle of Brunanburh
1016 – the Viking ruler, Canute, becomes King of England
5th January 1066 – King Edward the Confessor dies with no heir
6th January 1066 - Harold Godwinson crowns himself King of England
20 September 1066 - Harald Hardrada, a Viking claiming the English throne invades England with more than 10,000 men in 200 longships
25 September 1066 Harold Godwinson, defeats and kills Harald Hardrada at the Battle of Stamford Bridge
27th September 1066 - The William the Duke of Normandy (France), invades the south of England from France. His Normans pillage and burn the south
14 October 1066 – The Battle of Hastings. Harold marches south to meet William, where they battle at Hastings. William defeats Harold, who is killed.

Key Words

Anglo Saxon	The Anglo-Saxon age in Britain was from around 410AD to 1066. They were a mix of tribes from Germany, Denmark and the Netherlands. The three biggest were the Angles, the Saxons and the Jutes. The land they settled in was 'Angle-land', or England.
Monastery	The building where monks live.
Vikings	People from Scandinavia who were fighters, sea-travellers, traders and farmers.
Witan	The name given to the collection of Anglo-Saxon noblemen who advised the king.
Longboat	A Viking ship with a sail and oars.
Dark Ages	The term used to describe the years that followed the fall of the Roman Empire
Archaeologist	Someone who examines objects and locations from the past, through diggings and excavation.
Invaders	People who attack and try to take over land from other people.
Pagan	A person who worships many different gods.
Celts	People in Britain before the Romans invaded in 43AD.
Pope	Head of the Roman Catholic Church.
Runes	The letters of the Anglo-Saxon alphabet.
Thane	An Anglo-Saxon nobleman who owned land.
Slave	A person who is not free but is owned and made to work by another.
Conquer	To beat an enemy and control them and their land, using force.

Mapping Anglo Saxon England

When studying Anglo Saxon England, it is essential to get a sense of place. By the 1060s, England had changed considerably in the six centuries under Anglo Saxon control. The geography of the country and its neighbours will help us understand the big picture of this topic.

Key
The Danelaw | Countries
Welsh Marches | Earldoms
Marshlands | Mountains

Scotland
Anglo Saxon England had an uneasy relationship with Scotland. There were common raids into the North, most recently in by Scottish King Malcom III in 1061.

The Earldoms
England was split into 5 earldoms:
- Mercia
- East Anglia
- Wessex
- Northumbria
- Kent

Each was run by an Earl, who were militarily and financially powerful whilst owing their land and position to the King who had granted them it.

The Welsh Marches
Wales, like Scotland, was hostile to Anglo Saxon England. Welsh King Gruffudd ap Llywelyn attacked England in both 1052 and 1055.

The population
Anglo Saxon England had a population of roughly 2 million, with 90% of those living in villages in the countryside.

The few towns, contained the rest of the population and were spread across the England. They provided protection in the face of invasion and were trading centres.

Key Cities
London was the largest city, followed by York, It had good international trading links.

Winchester was the capital as it held the treasury and official documents, such as laws, it was where the King was seated..

Canterbury was the home of the Archbishop, head of the Catholic Church of England

The Danelaw
In the 9th Century, Danish Vikings had conquered parts of Northern and Eastern England, known as the *Danelaw*, with York as the capital. Whilst Viking rule did not last long, its impact was felt for generations

The Anglo Danish ancestors in the Danelaw spoke a different language and had their own traditions and culture. Although they accepted the rule of the King of England, they wanted the Danelaw to be ruled by their own men and had many of their own laws, even paying lower taxes.

Scandinavia
Between 1014 and 1042 the kings of England were Viking invaders, such as Cnut. They had encouraged trade with Scandinavia (Denmark, Norway & Sweden) and the Danelaw continued to have close political and trading links with it.

Normandy
Normandy traded with England and was tied to the royal family, with Emma of Normandy being the mother of King Edward the Confessor. Edward even had Norman advisors when he ruled.

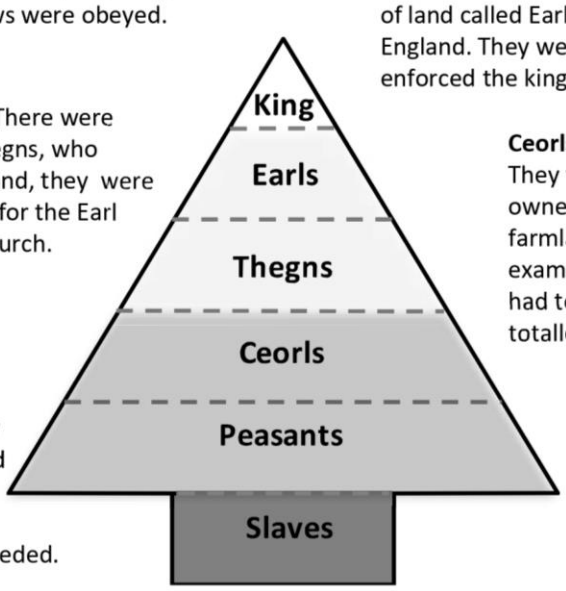
How was society organised?

Key
Aristocracy | Peasants

King
The most important person in the country, chosen by God, proving his power over of all the country. His tasks were to defend his country to pass good laws and to make sure the laws were obeyed.

Thegns
Thegns were the local lords. There were between 4,000 and 5,000 thegns, who ruled the small areas of England, they were the warrior class who fought for the Earl Some were bishops of the Church.

Peasants
70% of Anglo-Saxons were peasant farmers, who rented small farms that they worked for their families and also their lord. They owe their land to their Lord, and must also join the army if needed.



Earls
The most important lords, ruling huge areas of land called Earldoms. there were 5 earls in England. They were the king's advisers, enforced the king's laws and raised the army.

Ceorls (Freemen)
They were free peasants who owned their own small area of farmland. Some were skilled, for example blacksmiths. All ceorls had to serve in the army. They totalled 10% of the population

Slaves
10% of the Anglo-Saxon population were slaves, they were not free and had to work for their lord. It was a normal practice.

The Norman Invasion

Term 2

The Norman Conquest – a period between 1066-88, where William of Normandy and his Normans invade, conquer and rule England.

Key Events

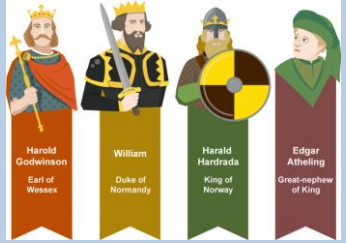
25th December 1066 - William is crowned king of England at Westminster Abbey.
1068 – William begins the building of his first castles. A Motte and Bailey castle is built in Warwick to keep control of the Midlands.
1069-70 – Rebellions in the North of England leads to the Harrying of the North where William devastates the north to stop the rebellions. He burns fields, cattle and destroyed villages leading to the death of 100,000 people die.
1085 – William orders the Domesday Book, a survey of England
1087 – William I of England dies

Key People

Harold Godwinson	Anglo Saxon, Earl of Wessex, a powerful leader of England. His sister was married to Edward the Confessor.
William of Normandy	A Norman and Duke of Normandy in France, cousin of Edward the Confessor. An experienced leader and fighter.
Harald Hardrada	A Viking, King of Norway. Most feared warrior in Europe, claims he was promised the throne.
Edgar the Atheling	Leader of the 1069-70 rebellion against King William

Bayeux Tapestry	An embroidered cloth created in the 1070s to tell the story of the Norman Conquest from the Norman point of view.
Fyrd	Part time army used by the Anglo Saxon army
Housecarls	Full time and well trained soldiers in the Anglo Saxon army,
Cavalry	A soldier mounted on a horse
Shield Wall	A formation when soldiers stand together and link shields in a wall
Archbishop of Canterbury	In charge of running the Catholic Church in England. Swore in the new
Motte and Bailey	The first castle created by William. It was made out of wood and had a higher Motte part and a low Bailey part.
Stone Keep	Castle made out of stone with towers for defence
Homage or Oath	To promise to give allegiance to someone (e.g. King) publically.
Feudal System	The social structure of Medieval England that William used to keep control and loyalty of his people.
Villein	Peasants at the bottom of the Feudal System
Noble	Barons, Earls or other rich land owners who pledge their loyalty to William in the Feudal System
Knight	A soldier who serves a noble, they usually ride horses and wear armour. Ruled over the villeins
Pillage	To steal from a place during war.
Rebellion	An act of resistance to the government or King
Domesday Book	'The Great Survey' of 1085 which told William the value of English land, who owned it and what was there e.g. cattle It allowed him to calculate how much taxes he could charge.
Tax	Compulsory money paid to the king or government.

When Edward the Confessor died in 1066, the Witan, England's high council, met and decided who should be the next King of England. They chose Harold Godwinson, a leading member of the council. However, there were three other claimants to the throne.



<u>Edgar Aetheling.</u>

He was the closest relative to Edward as his grandfather had been Edward's half-brother. However he was only 14, had no army, no military experience, no money and no experience of running a country.

<u>Harald Hardrada</u>

Harald Hardrada's father had been promised the throne by the pervious king, Harthacanute. When Hardrada's father died Harald Hardrada thought that he should be entitled to the English throne, as it had been promised to his family.

He was an experienced ruler, he had been the King of Norway for 20 years, he was the leader of a strong and powerful Viking army.

<u>William, Duke of Normandy</u>

He was a distant cousin of Edward as he was the illegitimate son of Edward' uncle.

William had strong ties to Harold Godwin as the earl of Wessex, they had been trading for years and they had helped each other fight of the threat of the Vikings.

Edward had been brought up in Normandy and when Harold Godwin rebelled against him in 1051, it was William of Normandy that had send in troops to help Edward. In return, Edward had promised William the throne.

William was a capable ruler of Normandy – he had proved that he was able to rule successfully.

He also claimed that Harold Godwinson, the most powerful earl in England had promised to support Williams claim.

<u>Harold Godwinson</u>

Harold was Edward's brother-in-law as his sister was Edith, the Kings wife.
Harold Godwinson was Harold Godwin's son – the son of the person that had tried to rebel against Edward in 1051.
The family had controlled Wessex, the most powerful earldom. He had been acting as the Sub-Regulus therefore had experience of running a country, he was a skilled military leader and had proven himself when he defended England against as Welsh invasion.
It is believed that on his deathbed, Edward asked Harold to look after the county, 'I commend all the kingdom to your protection'.

Harold said that he had only promised to support William's claim to the throne because he was being threatened.

YouTube

Overview of the claimants:

SCAN ME

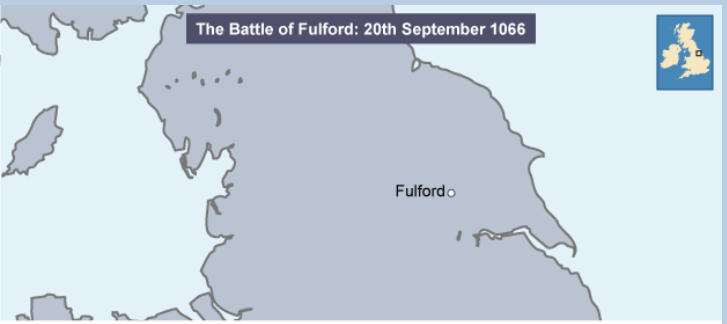
Summary of England in the 11thCentury

- England had rich mineral resources and fertile farming land.
- England was a Christian (Catholic) country.
- Viking influence: In 1013 the Vikings invaded England and Canute became the first Viking king of England. The North of England kept close links with Norway. Danegeld payments were made to Vikings to get them to leave.
- England was divided into four Earldoms: Wessex, Northumbria, Mercia and East Anglia.
- The Earls became the most powerful men in England after the king.
- Edward was able to become king because the Vikings were losing interest in England.
- Edward was crowned king on 3rdApril 1043.
- Norman influence: Edward had been sent to Normandy by his mother Emma when she married King Cnut. When he became king he appointed Normans to important posts in his court as he felt he could trust them more than the English Earls. However, he did marry Earl Godwin's daughter Edith.
- The Witan did not like the Norman influence and encouraged the Godwin family to return to England (after their exile).
- Edward was a weak ruler. He focused more on religion (he built Westminster Abbey. In the late 1050s Edward

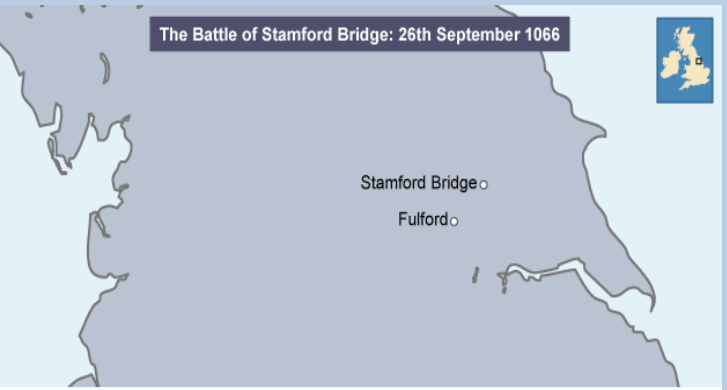
<u>Topic Summary</u>

1. England had a troubled History in the 50 years leading up to the succession crisis of 1066.
2. There were no clear rules in place for succession to the English throne.
3. Edward the Confessor had been a weak ruler. He increased Norman influence at court, which frustrated the English Earls, and allowed the Godwins to increase their power. In 1051 the Godwins rebelled against Edward. Although Edward survived the rebellion, the Godwins kept their powerful position. By 1057, the Godwins controlled earldoms in every part of England except Mercia.
4. Of the four claimants to the throne in 1066 Harold had the strongest position –being sub-regulus(deputy king) and having the support of the Witan. However, he faced competition from others who thought they had the right to be king –in particular William, Duke of Normandy.
5. Harold was hurriedly crowned just one day after Edward's death. The haste reflected how insecure he felt. He knew he would face challenges from other claimants.

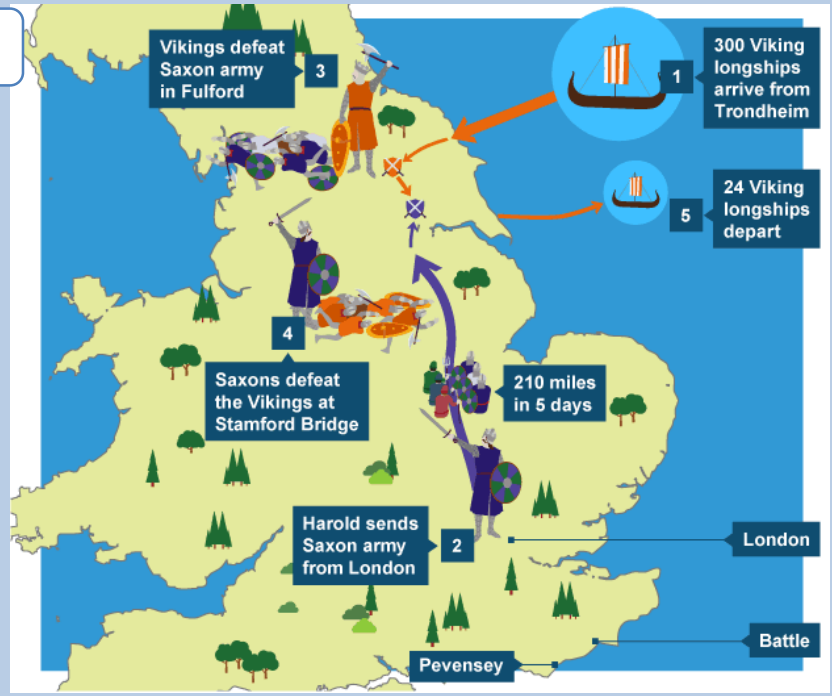
The battles of 1066

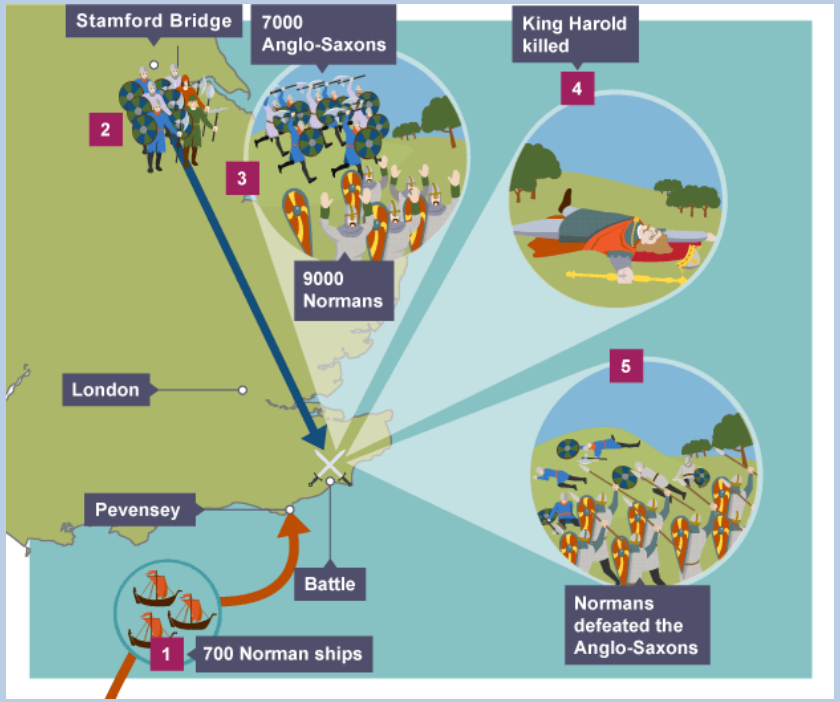


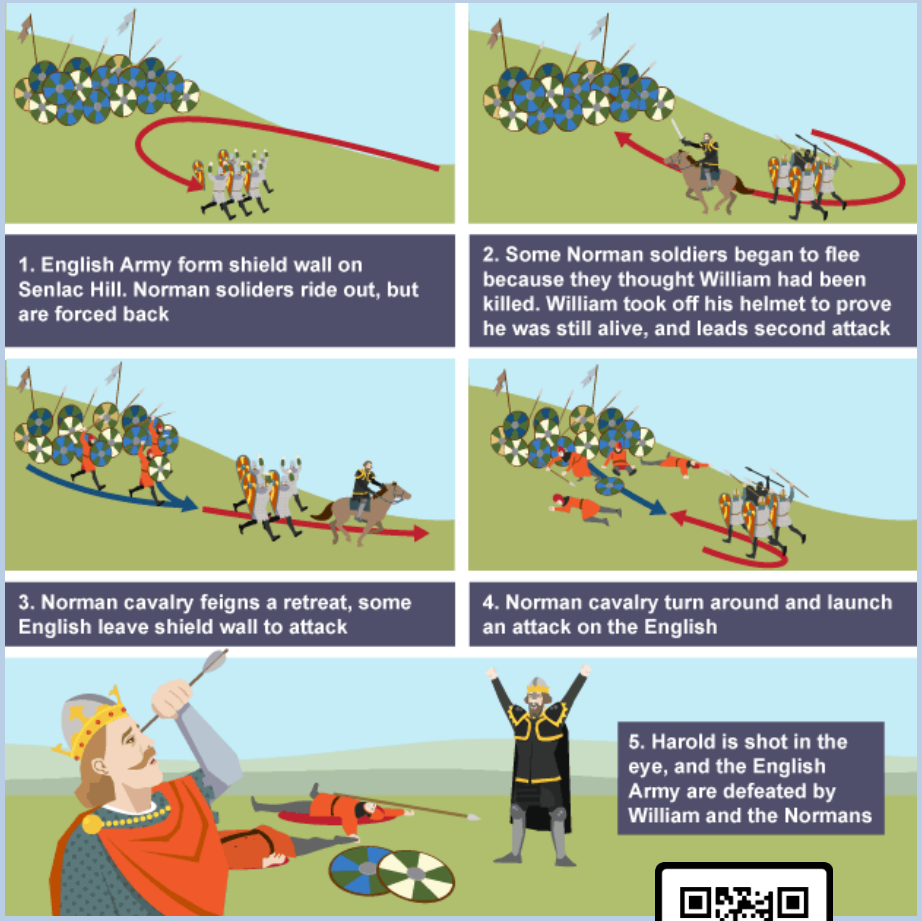
Earl Edwin and Earl Morcar		Harald Hardrada
x 5,000	Deployed soldiers	x 6,000
x 0	Reserve soldiers	x 4,000
x 1,000	Casualties	x 600



King Harold II		Harald Hardrada
x 15,000	Deployed soldiers	x 9,000
x 5,000	Casualties	x 4,000







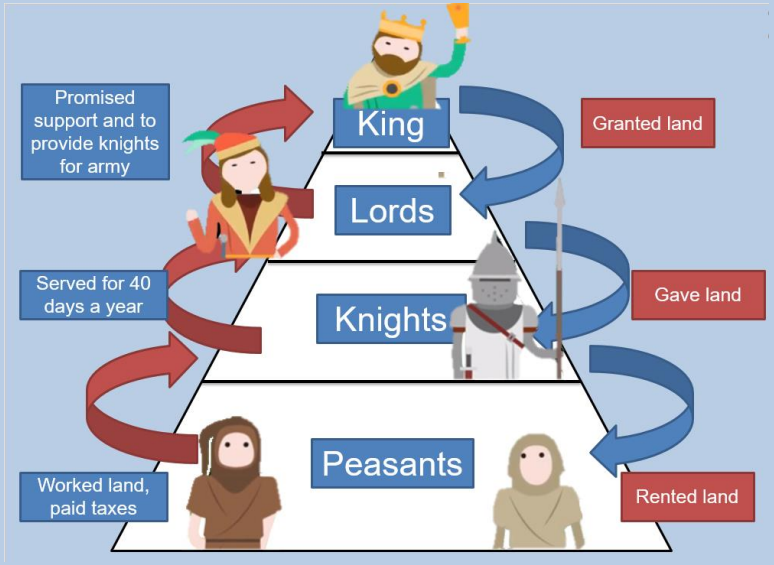
YouTube

Overview of the Battle of Hastings

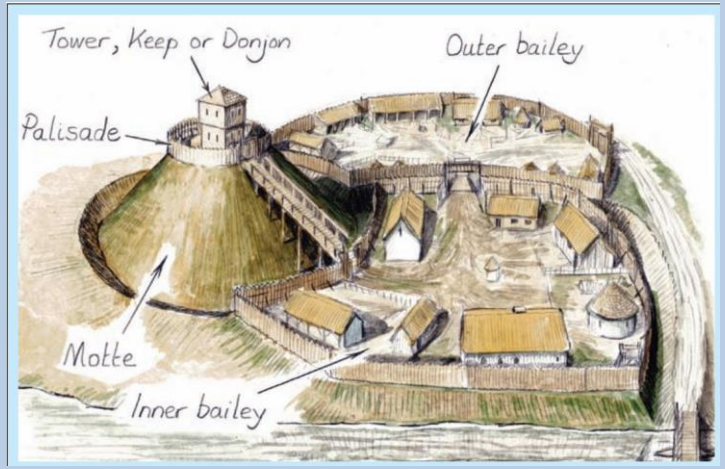
SCAN ME

After the Battle of Hastings, William had to assert his power over the rest of England. When he was crowned King of England on 25th December 1066 he still faced challenges.

There were three main ways he consolidated his control of the country: the building of castles, the establishment of the feudal system, and the creation of the Domesday book.



- The king owned all the land but gave some to the barons.
- The barons had to fight for the king and train knights for him. The knights then received some land from the barons.
- The **villeins** worked on the land for the knights and barons. They paid them taxes and gave them some of their crops, as well as fines if they broke the law.



Norman castles were often built in locations that were considered of strategic value. The first Norman castle in England was built a few miles from where William landed and was used as a base for soldiers to terrorise the local population and gather supplies.

Between 1085-86 the Domesday Book was created, it recorded who owned what land in England so that William knew what tax he could collect. It assessed the wealth and assets of his subjects throughout the land. This survey was also needed to asses the state of the country's economy in the aftermath of the Conquest and the unrest that followed it.

The Harrying of the North

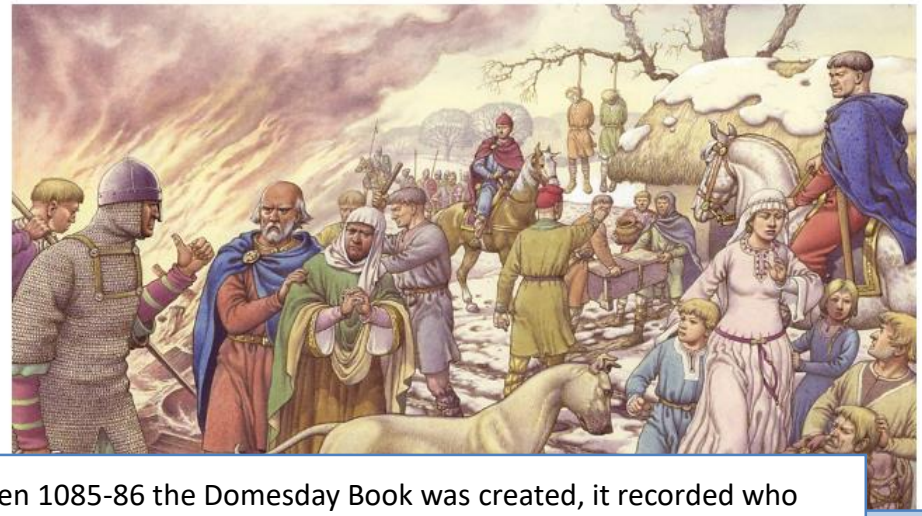
The winter of 1069 - 1070 is remembered in England as the most notorious period in the whole of King William's reign.

Faced with local rebellions in northern England that were encouraged by the Scots and the Danes, William set about systematically destroying large parts of the north.

According to **chronicler**, Orderic Vitalis:

> *'he made no effort to restrain his fury and punished the innocent with the guilty. In his anger he commanded that all crops, herds and food of any kind be brought together and burned to ashes so that the whole region north of the [river] Humber be deprived of any source of sustenance'.*

William's 'scorched earth' policy came to be known as the 'Harrying of the North'.



YouTube How William secured England:

SCAN ME

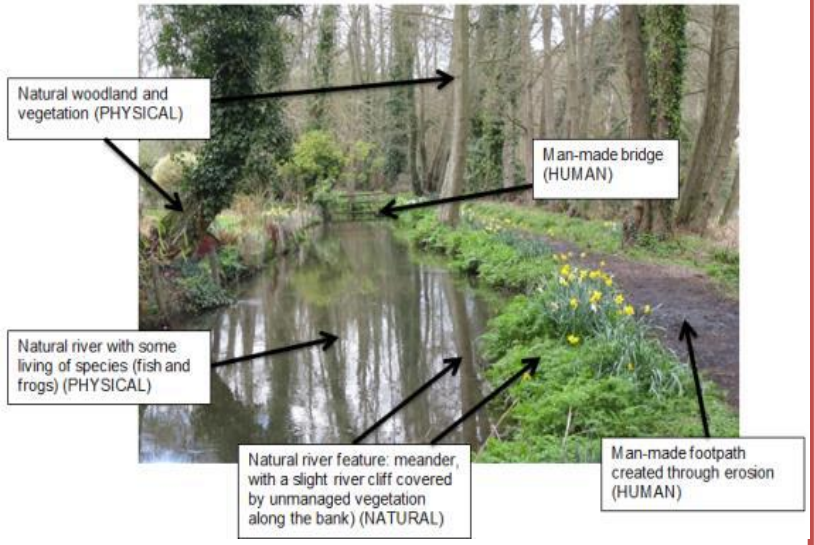

Clearbury Ring Fort
Clearbury Down
Charlton Manor Dairy
Charlton Manor Farm
Little Yews
Little Yews Plantation
Catherines Plantation
Yews Farm
Grim's Ditch (course of)
Nunton Drove (Track)
Field Barn
Down Barn
Warren Plantation
Church Lane
Charlton All Saints
Warrens Lane
Charlton Farm House
Fish Farm
River Avon
Standlynch Dairy
Standlynch Farm
Trafalgar Park
Standlynch Lodge
Four Gates
Standlynch Down
Privett Farm
Coles's Bury
Cheyney's Wood
Battscroft Copse
Long Plantation
Lower Bush
Brock Farm
Long Row
Long Copse
Sandlands Copse
Goose Eye Copse
Whipshill Copse
Hanghill Copse
North Field Copse
The Giant's Grave Long Barrow
Giant's Grave Plantation
The Giant's Chair Tumulus
Charlton Furze
Wreakliz Plantation
New Court Down Barn
New Court Down
DOWNTON CP
The Nut Row
New Court Farm
Barford Cliff
Barford Park
Barford Park Farm
Barford Down Farm
Barford Down
Barford Lane
Langford Lane Wood
Chalk Pit
Templeman's Old Farmhouse
Tumulus
Mollcroft Copse
Titchborne Farm
Moor Farm
Gills Hole
Wall Copse
Newhouse
Grove Copse
Lower Pensworth Farm
Grove Lane
REDLYNCH CP
Wick Down
Botley's Farm
Upper Wick Barn
Gallows Hill
Jubilee Clump
Wick Farm
Wick Lane
Wick
Wick House
Long Close
Cross (restored)
The Manor House
Parsonage Farm
Cemy
Lode Hill
Downton
Paccombe Farm
Down House
The Moot
Motte & Bailey
Moot Farm
Sluices
Redlynch
Morgan's Vale
Slab Lane
Avon Valley Path
Pensworth Farm
Timbury Lane Farm
Sheerwood Copse
Langley Wood
Badgers
Hulse's Clump
Shoulder of Mutton Clump
Stanford Gorse
Breamore Down
North Charford Drove
South Charford Drove
Long Steeple Lane (Track)
Mizmaze
Tumulus
Field System
The Beeches
Giant's Grave Long Barrow
Whitsbury Castle Ditches
Earthwork
Sewage Works
Beech Nut Pit
Ten Acre Pit
Woodfalls
Woodfalls Farm
Ridge Farm
Church Close Copse
Lodge Farm House
Lock's Farm
Lover
Little Mount
North Charford Down Farm
South Charford Down Buildings
UA Bdy
Chalk Pit
Lions Lodge
Mound
North Charford Manor House
Lodge Copse
Rye Hill Copse
Searchfield Farm
Workings (dis)
Fords
North Charford
Tinney's Firs
Whiteshoot Farm
Bohemia
Loosehanger Farm
Loosehanger Copse
Hamptworth Lodge
Pimlico Firs
Pimlico Bottom
Down Farm
Limekiln Pit
Yarnfield Pit
Breamore Wood
Lower Farm
Yews
Breamore House
Sheep Wash
Breamore Park
North Street
Home Farm
The Rookery
South Charford Farm
Hookers Copse
Hatchet Green
Cattle Grid
Home Farm
Hale Farm
Hale Park
Hale
BREAMORE CP
Scale 1:25000
0 0.2 0.4 0.6 0.8 1 1.2 1.4 1.6 1.8 2 km

Field Sketches

Field sketches can be drawn by anyone - fantastic artistic skills are not required.

1.Identify the landscape that needs to be sketched.
2.Write a title that will help to locate the sketch, eg 'Site One'.
3.Draw an outline of the main features of the landscape with a pencil, e.g. hills and valleys or buildings and roads.
4.Add detail to the sketch to record more information.
5.Annotate or label the field sketch to give more information about the landscape and conditions, e.g. what was the weather like?
6.Consider taking a photograph to support the field sketch.

Annotating photographs



1. Write a title that will help to locate the photograph.
   e.g photo 1.
2. Annotate and label the photograph to give more information about the landscape and conditions.

Compass Directions

The four main points of the compass are North, East, South and West. Half way between each of these there are four other points: North-East, South-East, South-West and North-West. This makes an eight-point compass. There are a further eight points between these - remember the names of these are a mix of the two closest compass points but they always start with the main compass point, i.e North, East, South or West.

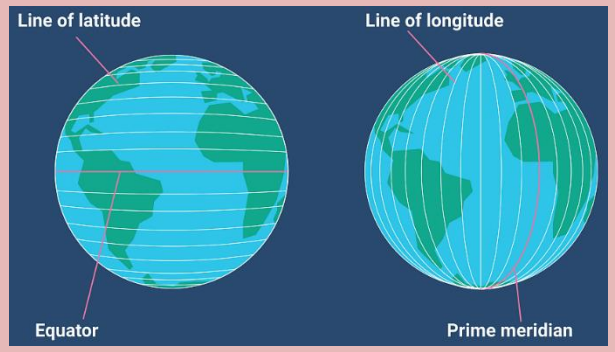
Ordnance Survey maps are always printed so that North is at the top of the map.

Latitude

Latitude (horizontal line) is measured in degrees north or degrees south of the equator, which is the line around the exact middle of the world.

Longitude

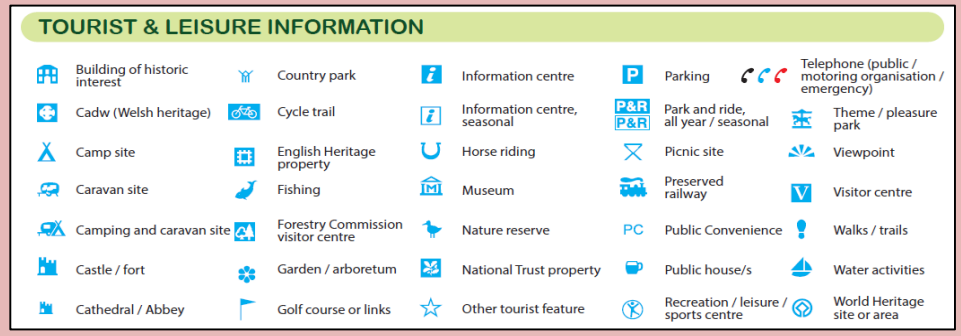
Longitude (vertical line) is measured in degrees east or west of something called the Prime Meridian. This is the line going from the North Pole to the South Pole and runs through the middle of the Greenwich Observatory in London.



Map Key

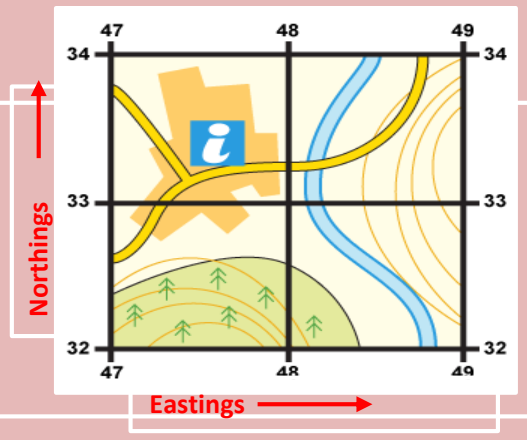
Features on a map are represented by a symbol. On each map the KEY tells you what each symbol means.

For example, this key shows Tourist and Information symbols on the map.



4 Figure Grid references

A grid of squares helps the map-reader to locate a place. The vertical lines are called **eastings**. They are numbered - the numbers increase to the east. The horizontal lines are called **northings** as the numbers increase in an northerly direction.



Four-figure grid references can be used to pinpoint a location to within a square. To find the number of the square:

1.Make a capital 'L' with your left hand – thumb and forefinger.

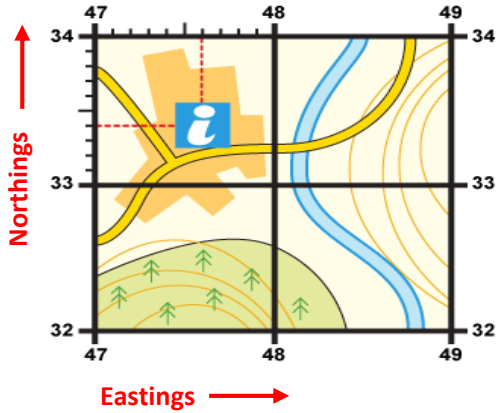
2.Start at the left-hand side of the map and go east until your forefinger is on the line immediately to the left of the feature you want. Write this number down.

3.Move north until your thumb gets to the bottom of the square you want. The feature you want should now be 'framed by an 'L'. Look at the number of this horizontal grid line and add it to the two-digit number you already have. This is your four-figure grid reference.

In the example above, the tourist information office is in grid square 4733.

6 Figure Grid references

Sometimes it is necessary to be even more accurate. In this case you can imagine that each grid is divided into 100 tiny squares. The distance between one grid line and the next is divided into tenths.



1. find the four-figure grid reference but leave a space after the first two digits.

2. Estimate or measure how many tenths across the grid square your symbol lies. Write this number after the first two digits.

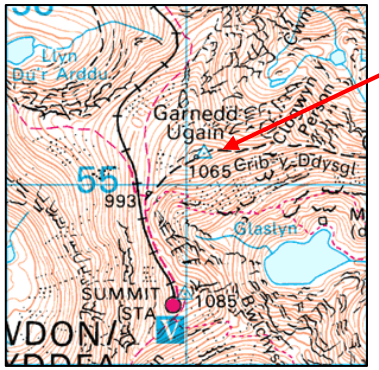
3. Estimate how many tenths up the grid square your symbol lies. Write this number after the last two digits. You now have a six figure grid reference. In this instance, the tourist information office is located at 476334.

Height on maps

Maps show height in a number of different ways:

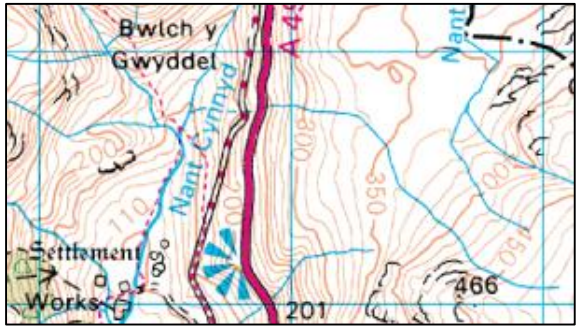
Spot heights and triangulation pillars

This map extract shows exact heights by a black dot with a number next to it.



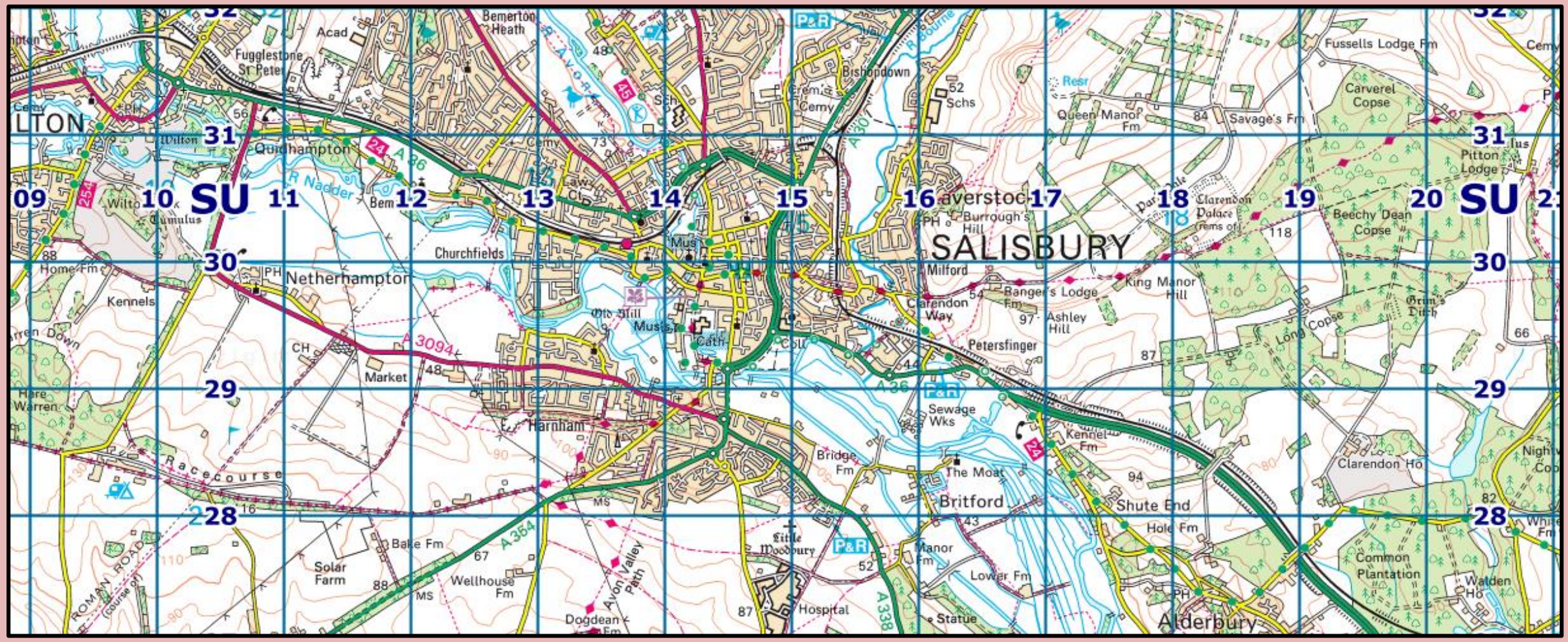
The number is the height above sea level in metres. The blue triangle represents a **triangulation pillar**; the networks of concrete pillars found in the UK that were used to make maps.

Contours



These are brown lines drawn on maps that join places of the same height. They are usually an orange or brown colour. Some contour lines have their height above or below sea level written on them. It is possible to use them to see the shape of the land - if contour lines are close together the slope is steep, if they are far apart the slope is gentle.

Ordnance Survey Map of Salisbury



Key Words

Latitude	Prime Meridian	Grid reference	Annotation
Longitude	Contour	North	Sketch
Eastings	Scale	South	Compass
Northings	Key	East	
Equator	Symbol	West	

Yr7 BVT

Life of Jesus

Chronology of Jesus' Life

Jesus was born in **Bethlehem** to Mary and Joseph. He was visited by the wise men and shepherds as the **Messiah** (King and Saviour to the Jewish people). At this time the area where Jesus lived (**Judea**) was ruled by King Herod. King Herod had ordered men to come and find Jesus as he was threatened by this baby, said to be the king of the Jews. Mary, Joseph and Jesus fled to **Egypt** to live.

When Jesus was **12**, the family went back to Judea **to Nazareth**, where Jesus grew up. Between the age of **12 and 30** little is known about Jesus but he worked as a **carpenter** in Nazareth.

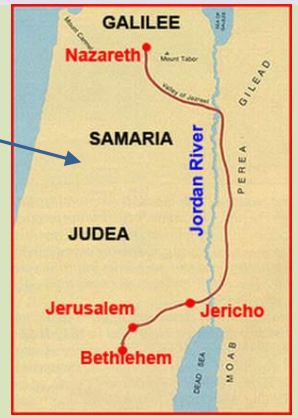
At **age 30** Jesus was **baptised by John the Baptist in the River Jordan**. After his baptism Jesus spent **40 days** and nights in the wilderness where he was tempted by the Devil. This same year Jesus performed his **first miracle** of turning water into wine.

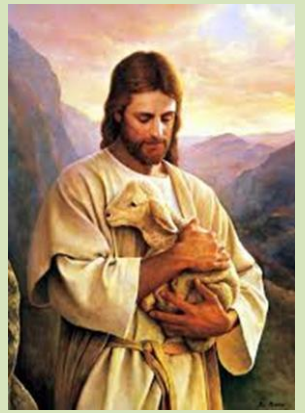
By the **age of 31** Jesus has called all **12 disciples** to follow him. At 31 Jesus heard that John the Baptist had been imprisoned so he moved to Galilee. He started **teaching about God.**

At the age of **32** Jesus performed the **miracles** of Loaves and Fishes and walking on water.

Just before Jesus was **33** he travelled to **Jerusalem.** Jesus arrived in Jerusalem for the Jewish festival of Passover. He arrived on a donkey fulfilling a Jewish prophecy about the arrival of the Messiah.

The Jews and Romans saw Jesus as a threat and had him arrested and sentenced to death. Jesus is **crucified** on the cross. After the death of Jesus , he is re-born or **resurrected**. He lived on for 40 days on earth talking with the disciples, after which Jesus died and **ascended to heaven**.





Key vocabulary

Bethlehem
Nazareth
Judea
Jerusalem
Disciples
Crucified
Resurrected
Ascension
Messiah
Miracle

Ascension	When Jesus ascended (went up) to Heaven after 40 days of rebirth
Atonement	When Jesus make up for the sins of mankind; his sacrifice
Incarnation	God lives through Jesus; Jesus is in part God
Messiah	Saviour – Jesus was called this as he saved everyone's sins when he died.
Resurrection	When Jesus came back to life for 40 days
Salvation	Being accepted into Heaven
Trinity	That God is 3 parts; the Father, the Son and the Holy Spirit (the presence and power of God).

Life of Jesus

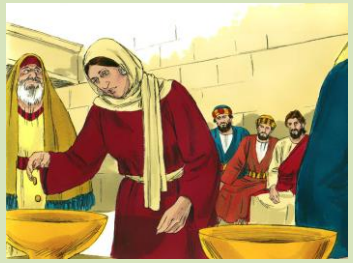
Parables

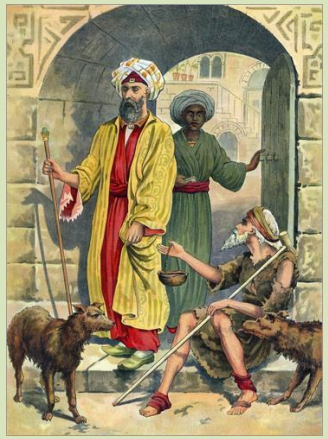
Parables are **stories that Jesus told that had messages for people to learn and live by**. Here are a few examples:

The Widow's Offering: At collection for the poor at the religious temple a rich man puts a fair amount of money in and an old widow puts 1-2 coins in. The disciples say to Jesus how little the woman has put him. But Jesus tells them that the Widow has put everything she has, whereas the rich man has only put some of his wealth in, even though it was more in value.

The Prodigal Son: A farmer gives his inheritance to his two sons early. One son leaves his father's farm and goes and spends and wastes the money on luxury's and enjoying himself. The other son saves his and remains with his father working on his farm. The first son returns and apologises to his father begging him that he can stay and have a job on the farm. The second son is very angry at this, but the father welcomes home the first son with open arms.

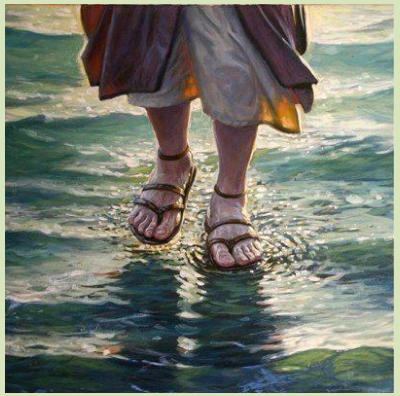
Lazarus and the Rich Man: Lazarus is a beggar who is very poor. Everyday a rich man walks past him on his way to work and everyday Lazarus asks him for help. The rich man ignores him each time. When both men die, Lazarus goes to Heaven but the rich man is sent to Hell. The rich man pleads with God to come to Heaven, however God tells him that he has shown his true self and should have thought about this during his life.





Key vocabulary

Disciples
Parable
Miracle



Miracles

Jesus miracles are **important** because of these reasons:

1) They helped people and showed kindness at the time
2) They show people then and today that Jesus was the Son of God. This is called the **incarnation of God** – that God lives through Jesus. ***"The word became flesh and lived among us for a while" Bible***
3) They show Christians today that God is prepared to help them, which gives them hope if they have problems.

The Calming of the Storm: Jesus and his disciples were out in the Galilee Sea fishing on a boat. A huge storm started and the disciples feared for their lives. Jesus stood up in the boat and raised his arms and called out "Be still". The storm died down.

The Curing of the blind man: Jesus saw a blind man. He went to him and mixed his saliva and dust from the ground in his fingers and rubbed this over the blind mans eyelids. He told the man to wash his eyes. When the man went to wash his eyes, he found he could see! Watch this clip

Others include:
Feeding of the 5,000
Healing the leper
Saving Jairus' daughter from dying
Walking on water

SCAN ME

Holy Week

Palm Sunday – Jesus arrives in Jerusalem for the Jewish festival of Passover on a donkey, fulfilling the **prophecy** of the **Messiah** (saviour) arriving. People wave and lay palm branches to welcome him.

Monday / Tuesday – Jesus goes to the temple. He challenges the high priests that God's temple is being used as a marketplace, selling and trading rather than for prayer. He also challenges the priests for making people pay to be able to worship and pray to God, making money from this.

Wednesday – **Judas** is paid 30 pieces of sliver to **betray** and locate Jesus for the Romans.

Thursday – the **Last Supper**. Jesus confronts Judas and tells him he knows he has betrayed him, but he forgives him. Jesus knows he will die. He asks the disciples to remember him by breaking bread, as his body, and drinking wine, as his blood. In the evening Jesus is **arrested in the Garden of Gethsemane** by the High Priest Caiaphas' guards.

Good Friday - Jesus is taken to **Pontius Pilate** the Roman Governor, the only one able to issue a death sentence. He is charged with rebellion and also **blasphemy.** This is taking the Lord's name in vain. This is because he said he was the Son of God, which if you didn't believe was a huge insult to the Jews at this time. After the trial, Jesus is **crucified**. It would have taken Jesus 6 hours of suffering before he died. Jesus' body was placed in a tomb and a stone rolled in front.

Easter Sunday – Mary Magdalene and 2 other women come to attend Jesus' body but the stone has been rolled away. Jesus' body has also disappeared. An angel told them Jesus had been **resurrected** (reborn) and would meet them in Galilee.

Jesus lived for 40 days after his resurrection showing himself and preaching about God with his disciples. He told his disciples to **baptise** all people in the name of the father, the Son and the Holy Spirit. After which he died and **ascended** to heaven.

Life of Jesus

Key vocabulary

Palm Sunday
Maundy Thursday
Last Supper
Messiah
Good Friday
Easter Sunday
Resurrected
Crucified
Atonement
Salvation
Ascension

SCAN ME

Why did Jesus have to die?

Many people ask why did Jesus have to die? Why did God kill him? If Jesus was the Son of God why did he not save himself?

God decided to kill Jesus to save our souls. You may have heard his expression before – but what does it mean??

God saw that **mankind was sinning** and turning away from him. God needed to **punish** these people because God is just and fair. But there were so many people to punish and **God was all loving** and didn't want to punish them all, so God sent Jesus down to save them.

A Bible quote to show this is "God loved the world so much he gave his only Son"

Jesus lived with everyone and taught them about how to follow God and gain **salvation** (**eternity in heaven**). But not everyone listened to Jesus.

So God decided to **allow Jesus to die for mankind's sins**. This is called **Atonement.** By Jesus dying it allowed people to be re-born into Christianity which started at this time. It allowed people to be with God again and gain **salvation – a place in God's Heaven** when they died.

Year 7 – BVT

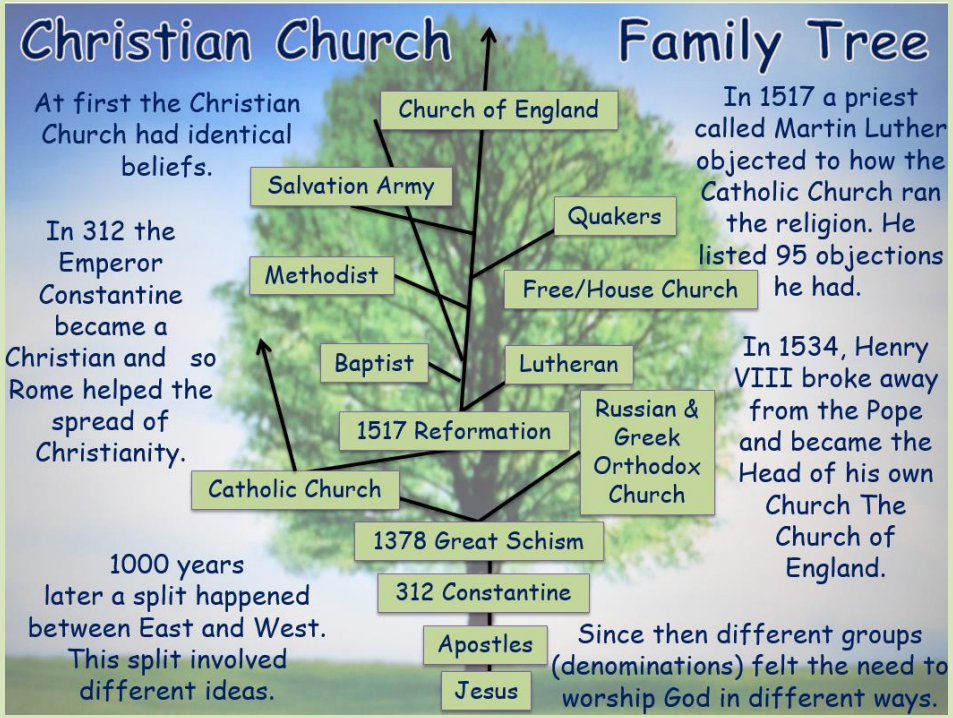
Christianity

Different types of Christians

There are **many different types of Christians** because when Christianity began, Christians changed little things to do with their beliefs or practices and they developed into different **denominations** of Christianity. So, some Christians have slight differences.

This could be their practices such as the church they attend and how they worship. It could be their beliefs about how to live as a Christian for example their beliefs about marriages and relationships.

However they all believe in the Trinity. The belief in God, Jesus – as his Son and the Holy Spirit. They all believe in the life and teachings of Jesus.



Key vocabulary

Denomination
Catholic
Anglican
Baptists
Quakers
Liturgical
Non-Liturgical
Set prayer

Why do Christians worship… Let's look at the 5 reasons on this hand opposite

Types of Christian Worship

Most Christians worship God by going to church and taking part in hymns and prayers and listening to services or sermons. This is an important time in the week as Christians come together as a community.

Some Christians prefer to worship God in a formal or structured way. This is called **LITURGICAL** WORSHIP. Liturgical worship involves following a set pattern of rituals called a LITURGY. Most churches have these written down in a book. It may be set prayers (e.g. Lords prayer) or hymns.

Other Christians choose to worship God in a less formal and unstructured way. This is called **NON-LITURGICAL**. In non–liturgical worship the emphasis is on the WRITTEN or SPOKEN WORD. For example BIBLE READINGS or **SERMONS** which are chosen by the preacher. This form of worship is more personal as the preacher can choose a THEME e.g. forgiveness or could relate a bible passage / parable or to a problem within their community.

Christians can also use PRIVATE worship. This is important because worship can take place when and where a Christian would like. It also means that they can choose how they worship. This could be reading a passage or parable from the bible, lighting a candle or reading a set prayer like the Lord's prayer… but it would always be up them .

THE LORD'S PRAYER

**Our Father, who art in heaven,
hallowed be Thy name.
Thy kingdom come.
Thy will be done on earth as it is in heaven.
Give us this day our daily bread and forgive us our trespasses as we forgive those who trespass against us.
And lead us not into temptation, but deliver us from evil.
Amen.**

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

Christianity

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.

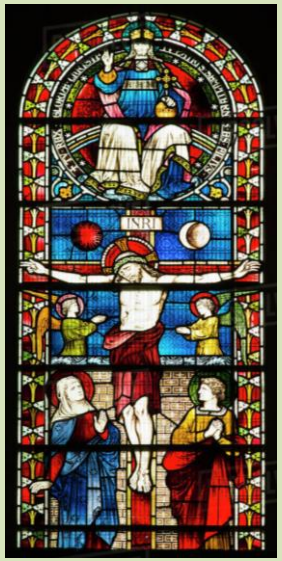
Key vocabulary

Altar
Preacher
Font
Pulpit
Lectern
Stained glass window

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

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

SCAN ME



Believers Baptism:

Allows the person to choose whether they want to join the Christian church. They will give a Testimony which declares their faith to Christianity and Jesus.

Believers baptism can be in a Baptist church pool (Like Downton Baptist Church) or in a river / sea or other water.

The water acts as a sign of washing away sin and being reborn as a Christian.

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

Infant Baptism:

Traditional in Christianity. This is to welcome the child into the Christian family, giving the child the protection of God as they grow up.

The font is used to pour water the child and the god parents make promises to teach the child about their faith.

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

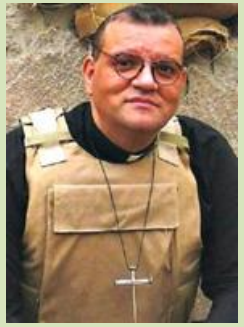
Christian Teachings that inspire helping others

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.

bonjour monsieur / madame
(Hello sir / miss)

bonsoir
(good evening)

bienvenu(e)
(welcome)

salut
(Hi)

je suis là
(I'm here)

je suis présent(e)
(I'm present)

je pense que
(I think that)

il / elle est absent(e)
(he / she is absent)

il / elle est malade
(he / she is ill)

ça va?
(How are you / How goes it?)

comment ça va?
(How's it going?)

je ne comprends pas
(I don't understand)

je ne sais pas
(I don't know)

comment dit-on … ?
(how do you say … ?)

je n'ai pas de stylo
(I don't have a pen)

où est … ?
(where is … ?)

pourquoi …?
(why … ?)

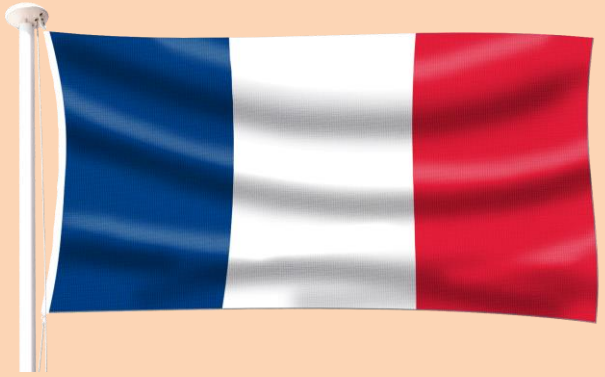
ça va bien / mal
(fine / bad)

ça va
(OK)

comment ça va?
(How's it going?)

je suis fatigué(e)
(I'm tired)

je suis malade
(I'm ill)



oui
(yes)

non
(no)

ça depend
(it depends)

s'il te / vous plaît
(please)

merci
(thanks)

au revoir
(goodbye)

à lundi / mardi / mercredi / jeudi / vendredi
la (semaine) prochaine / plus

(until Monday, Tuesday, Wednesday, Thursday, Friday next [week], later)

YEAR 7 FRENCH – PRONUNCIATION AND THE ALPHABET

We need to make some new sounds when we speak French. You might feel as if your mouth and nose have had a bit of a workout when you try to sound 'really French', because you're making different shapes with your mouth, tongue – you even use your nose more!

L'alphabet

A ah	H ash	O oh	V vay
B bay	I ee	P pay	W doobla-vay
C say	J shee	Q coo	X ix
D day	K car	R air	Y ee-grek
E er	L ell	S ess	Z zed
F eff	M emm	T tay	
G shay	N enn	U ooo	

Les jours de la semaine / les mois de l'an

(The days of the week / the months of the year)

Formal or informal?

If you don't know someone, or they are older than you are you will address them as:

vous

If you know someone, or they are younger than you are, you will address them as:

tu

Bonjour Monsieur / Madame *(hello sir / madam)*		
Comment vous appelez-vous? Comment t'appelles-tu? *(What's your name? / What do you call youself?)*		Je m'appelle *(I am called)*
Comment ça s'écrit? *(How do you write that?)*		Ça s'écrit … *(It is written …)*
Vous êtes de quelle nationalité? Tu es de quelle nationalité? *(What is your nationality?)*		Je suis anglais/e *(I am English)*
Où habitez-vous? Où habites-tu? *(Where do you live?)*		J'habite à Downton *(I live in Downton)*
Quel âge avez-vous? Quel âge as-tu? *(How old are you?)*		J'ai onze / douze ans *(I'm eleven / twelve years old)*
Quand est votre anniversaire? Quand est ton anniversaire? *(When is your birthday?)*		Mon anniversaire est en janvier … *(My birthday is in January …)*
Que faites-vous en France? Que fais-tu en France? *(What are you doing in France?)*	Je suis en vacances *(I'm on holiday)*	Je fais une visite scolaire *(I'm doing a school visit)*
Pour combien de temps? *(For how long ?)*		Un mois / une semaine *(A month / a week)*

buenos días Señor / Señora
(Hello sir / miss)

buenas tardes
(good afternoon)

bienvenido(s)
(welcome)

hola
(Hi)

estoy aquí
(I'm here)

estoy presente
(I'm present)

pienso que …
(I think that …)

(él / ella) es ausente
(he / she is absent)

(él / ella) es enfermo/a
(he / she is ill)

como está / estás?
(How are you / How goes it?)

no entiendo
(I don't understand)

no sé
(I don't know)

como se dice … ?
(how do you say … ?)

no tengo boli
(I don't have a pen)

dónde está … ?
(where is … ?)

por qué…?
(why … ?)

estoy bien / mal
(fine / bad)

así así
(OK)

estoy cansado/a
(I'm tired)

estoy enfermo/a
(I'm ill)

sí
(yes)

no
(no)

depende
(it depends)

por favor
(please)

(muchas) gracias
(many) thanks

adiós
(goodbye)

hasta lunes / martes / miércoles / jueves/ viernes
la vista

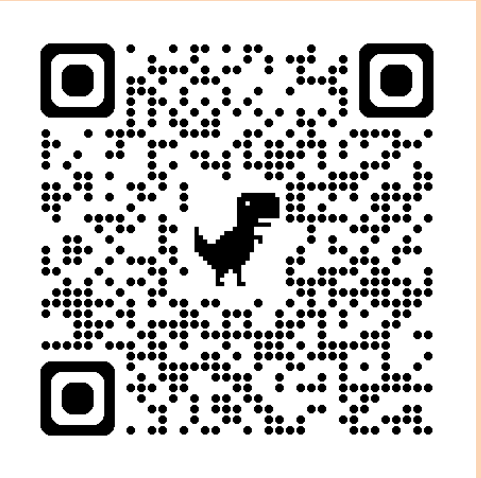
(until Monday, Tuesday, Wednesday, Thursday, Friday)
next time (we see each other)

Things you can say in the classroom to get you started!

YEAR 7 SPANISH – PRONUNCIATION AND THE ALPHABET

We need to make some new sounds when we speak Spanish. You might feel as if your mouth and nose have had a bit of a workout when you try to sound 'really Spanish', because you're making different shapes with your mouth, tongue – you even use your nose more!

ALPHABET



TONGUE TWISTERS IN SPANISH!

SPANISH ALPHABET

A – ah	J – ho-tah	R – air-ray
B – bay	K – kah	S – es-say
C – say	L – el-lay	T – tay
D – day	M – em-may	U – oo (like boo)
E – ay	N – en-nay	V – oo-vay
F – ef-fay	Ñ – en-yay	W – oo-vay doble
G – hey	O – oh	X – ec-keys
H – ah-chay	P – pay	Y – yay
I – eee (like we)	Q – coo	Z – zay-tah

Los días de la semana y los meses del año

(The days of the week / the months of the year)

1 uno	2 dos	3 tres	4 cuatro	5 cinco	6 seis	7 siete	8 ocho	9 nueve	10 diez
11 once	12 doce	3 trece	14 catorce	15 quince	16 dieciséis	17 diecisiete	18 dieciocho	19 diecinueve	20 veinte
21 veintiuno	22 veintidós	23 veintitrés	24 veinticuatro	25 veinticinco	26 veintiséis	27 veintisiete	28 veintiocho	29 veintinueve	30 treinta
31 treinta y uno	32 treinta y dos	33 treinta y tres	34 treinta y cuatro	35 treinta y cinco	36 treinta y seis	37 treinta y siete	38 treinta y ocho	39 treinta y nueve	40 cuarenta
41 cuarenta y uno	42 cuarenta y dos	43 cuarenta y tres	44 cuarenta y cuatro	45 cuarenta y cinco	46 cuarenta y seis	47 cuarenta y siete	48 cuarenta y ocho	49 cuarenta y nueve	50 cincuenta
51 cincuenta y uno	52 cincuenta y dos	53 cincuenta y tres	54 cincuenta y cuatro	55 cincuenta y cinco	56 cincuenta y seis	57 cincuenta y siete	58 cincuenta y ocho	59 cincuenta y nueve	60 sesenta
61 sesenta y uno	62 sesenta y dos	63 sesenta y tres	64 sesenta y cuatro	65 sesenta y cinco	66 sesenta y seis	67 sesenta y siete	68 sesenta y ocho	69 sesenta y nueve	70 setenta
71 setenta y uno	72 setenta y dos	73 setenta y tres	74 setenta y cuatro	75 setenta y cinco	76 setenta y seis	77 setenta y siete	78 setenta y ocho	79 setenta y nueve	80 ochenta
81 ochenta y uno	82 ochenta y dos	83 ochenta y tres	84 ochenta y cuatro	85 ochenta y cinco	86 ochenta y seis	87 ochenta y siete	88 ochenta y ocho	89 ochenta y nueve	90 noventa
91 noventa y uno	92 noventa y dos	93 noventa y tres	94 noventa y cuatro	95 noventa y cinco	96 noventa y seis	97 noventa y siete	98 noventa y ocho	99 noventa y nueve	100 cien

Formal or informal?

If you don't know someone, or they are older than you are you will address them as:

usted

If you know someone, or they are younger than you are, you will address them as:

tú

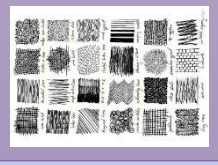
Buenos dÍas Señor / Señora		
¿Como se llama (usted)? ¿Como te llamas (tú)? (What's your name?)		Me llamo (I am called)
¿Como se escribe eso? (How do you write that?)		Se escribe … (It is written)
¿De qué nacionalidad es usted? ¿De qué nacionalidad eres tú? *(What is your nationality?)*		Soy inglés/a *(I am English)*
¿Dónde vive usted? ¿Dónde vives tú? *(Where do you live?)*		Vivo en Downton *(I live in Downton)*
¿Cuántos años tiene usted? ¿Cuántos años tienes tú? *(How old are you?)*		Tengo once / doce años *(I'm eleven / twelve years old)*
¿Cuándo es su cumpleaños? ¿Cuándo es tu cumpleaños? *(When is your birthday?)*		Mi cumpleaños es en enero … *(My birthday is in January …)*
¿Qué hace usted en España? ¿Qué haces tú en España? *(What are you doing in Spain?)*	Estoy de vacaciones *(I'm on holiday)*	Estoy en una visita escolar *(I'm doing a school visit)*
¿Por cuánto tiempo? *(For how long ?)*	Un mes / una semana *(A month / a week)*	

THE FORMAL ELEMENTS

TERM 1 and 2

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

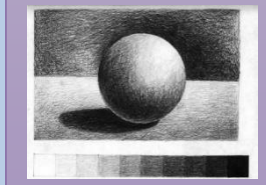
TONE means the lightness or darkness of something. This could be a shade or how dark or light a colour appears.



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.**

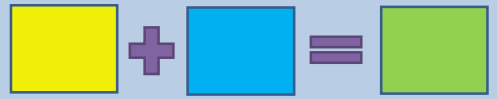
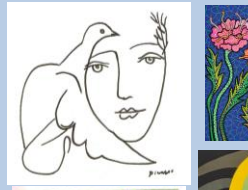
Patterns can be manmade or natural.


SENTENCE STARTERS

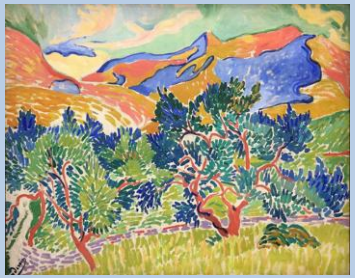
I can vary tone by…
- layering mark making
- using a range of pencils
- varying the pressure of my marks
- using an eraser to add highlights

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





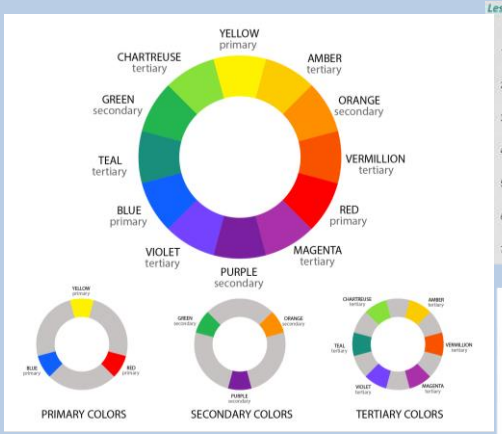


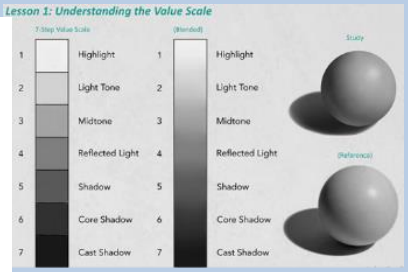
Artists you could research:
- Giorgio Morandi
- Sonia Delaunay
- Vincent Van Gogh
- Henry Moore
- Henri Matisse
- Angie Lewin
- Yayoi Kusama

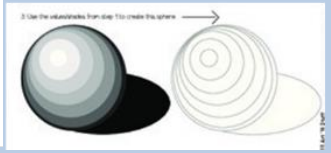
The Fundamentals of Art

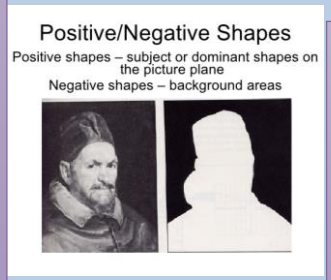
ESSENTIAL EQUIPMENT:
- PENCIL PACK (2B, 4B, 6B ETC)
- ERASER
- SHARPENER
- SKETCHBOOK

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

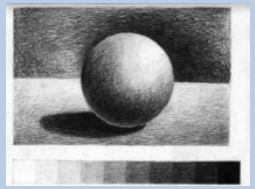






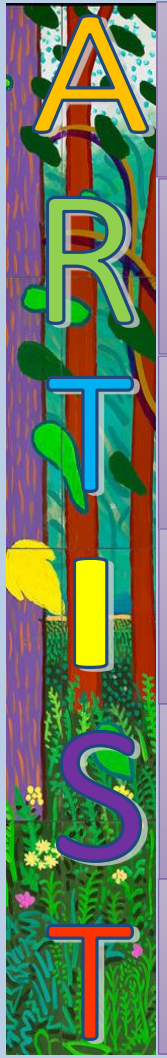


TALKING ABOUT ART:
- What are you looking at?
- How was it made?
- Who made it?
- How will it inspire your work?
- Do you like it or dislike it? Why?



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				



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

TERM 1 and 2

Giorgio Morandi

Morandi was an Italian painter and printmaker. The focus of much of his work was still life. His work is known for it's simplicity, often using vases, bowls, flowers and other objects. Within his drawing and print work, he used a range of strong, directional mark making to create a sense of space, form and texture.


Sonia Delaunay

Delaunay was a French artist, printmaker and textile artist. She spent most of her working life in Paris but during WW2 moved with her young family to the south of France. Her work was largely focused on bright, bold, sometimes weaving and overlapping shapes and patterns.


Vincent Van Gogh

Vincent Van Gogh was a Dutch Post-Impressionist painter. His paintings are know for their mark making, often creating the illusion of movement within the image. His landscapes create pattern and all paintings have layered colours which add to the feeling of movement within the image.


Yayoi Kusama

Kusama is a Japanese contemporary artist, working with sculpture, installation and paint. Her work is heavily patterned and her work often takes up whole rooms, sometimes accompanied with film and photography of the artist working.

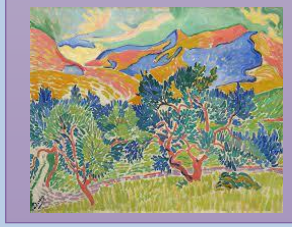



Henry Moore

Moore was a British artist and printmaker. His work includes abstract observations of human form, sheep, bones and found natural forms as well as capturing the cramped conditions of the underground in London during the Blitz of WW2.


Henri Matisse

Matisse was a French painter and paper cut artist. His paintings often included; still life, portraiture and landscapes of the French hills around his home. Later in his life he focused on more abstract shapes and colours through paper cut due to poor eyesight and ill health.




Angie Lewin

Lewin in a British artist and printmaker. Her work is inspired by the natural world around her. Often using found objects like feathers, stones and shells within her images. Her work is abstract through simplification and use of bold colour and pattern.


ARTIST RESEARCH SENTENCE STARTERS

- My chosen artist works with the materials:…
- I like/don't like the work of my chosen artist because…
- The mark making in the image creates…
- In my own work I will try to create…in the style of my chosen artist.
- I would describe the pattern/tone/detail in this image as…

YEAR 7 GRAPHIC DESIGN

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

What does a graphic designer do?

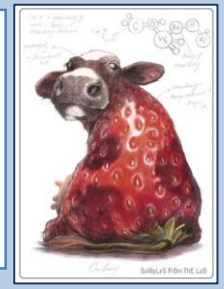
Graphic Designers create visual concepts to communicate information. They create everything from posters and billboards to packaging, logos and marketing materials. Graphic Designers use elements such as shapes, colours, typography, images and more to convey ideas to an audience.

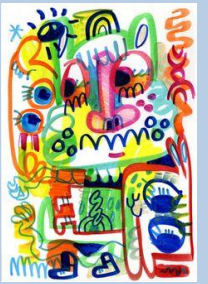
Graphic Designers:

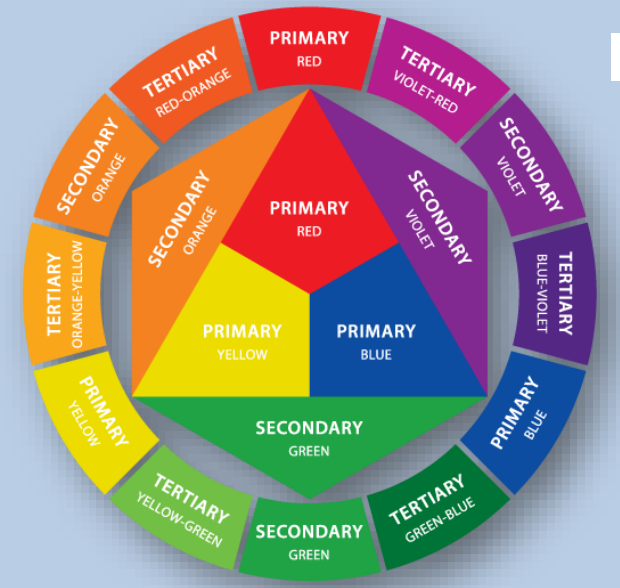
- Freya Hartas
- Jon Burgerman
- Alexander Calder
- Abigail Burch

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

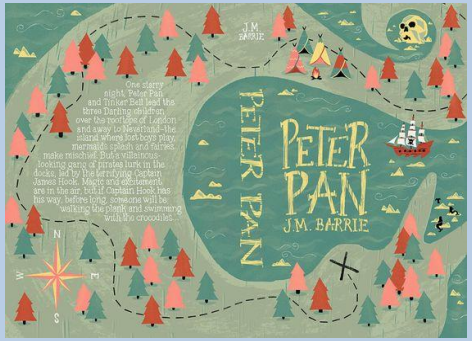
Complimentary colours are colours which are opposite to each other on the colour wheel. Examples of complementary colour combinations are: Red and green; yellow and purple; orange and blue; green and magenta. Complementary colour combos tend to be bold, which is why sports teams often use this formula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

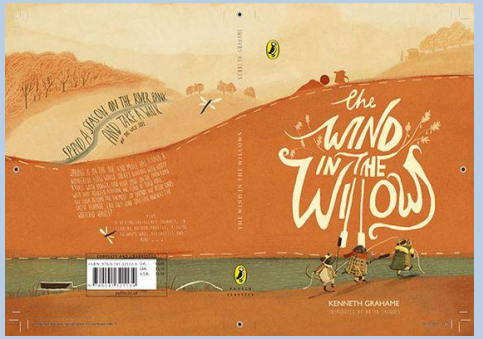
What do illustrators do to promote their work?

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.

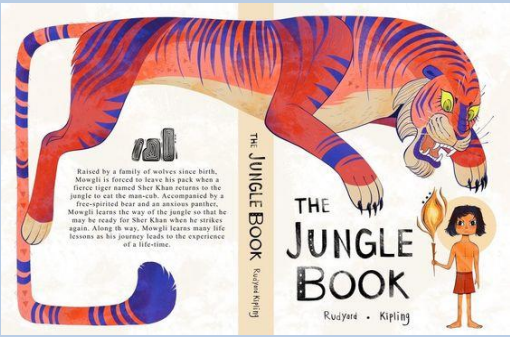
Promoting your own children's book design:

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
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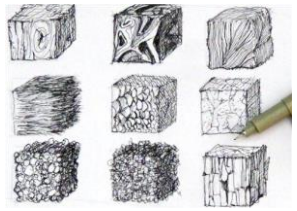

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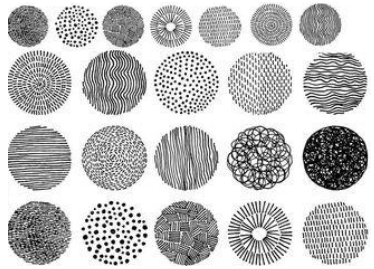
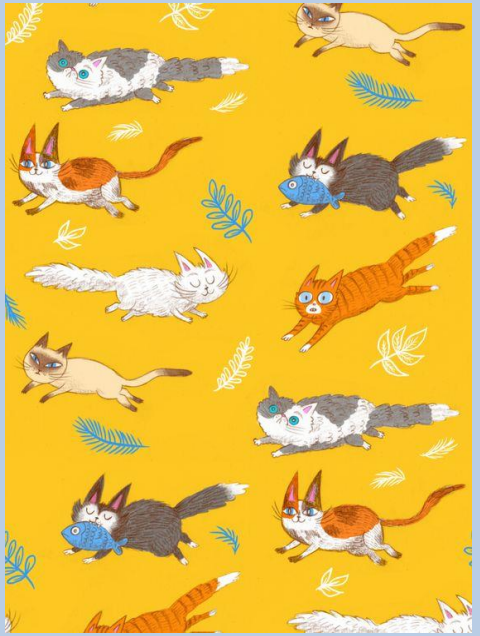


PATTERN

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

Patterns can be manmade or natural



FOUNDATIONS Exploring the Elements of Music

D Dynamics
The volume of the Music

R Rhythm
The order of the notation duration

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

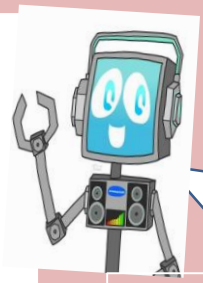
S Structure and Form
How the composition is built

M Melody
The Tune

I Instrumentation
The instruments used by the composer

T Tempo
The Speed of the Music

H Harmony
All the musical parts that support the Melody



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

Language for Learning

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

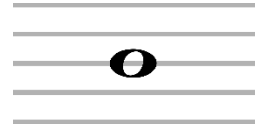
Accelerando (accel.)-to get faster, Ritardando (rit.) and Rallentando (rall.)- to get slower

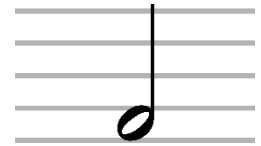
Italian terms and musical symbols relating to Dynamics:
Fortissimo (ff)-very loud, Forte (f)-loud, Mezzo Forte (mf)-medium loud,
Mezzo Piano (mp)-medium soft, Piano (p)-soft, Pianissimo (pp)-very soft
Crescendo (cresc.)-to get louder, Diminuendo (dim.)-to get quiter

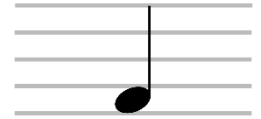
Italian terms and musical symbols relating to Articulation:
Legato – smooth; Staccato – short and detached

Essential Music Symbols


Treble Clef


Semibreve = 4 beats


Minim = 2 beats


Crotchet = 1 beat

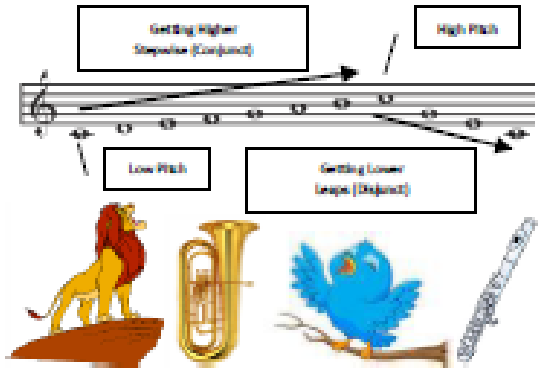

Quaver = 1/2 beat

FOUNDATIONS

Exploring the Elements of Music

A. Pitch

The highness or lowness of a sound.



B. Tempo

The speed of a sound or piece of music.

FAST: *Allegro, Vivace, Presto*

SLOW: *Andante, Adagio, Lento*

GETTING FASTER – *Accelerando (accel.)*

GETTING SLOWER – *Ritardando (rit.) or Rallentando (rall.)*

C. Dynamics

The volume of a sound or piece of music.

VERY LOUD: *Fortissimo (ff)*

LOUD: *Forte (f)*

QUITE LOUD: *Mezzo Forte (mf)*

QUITE SOFT: *Mezzo Piano (mp)*

SOFT: *Piano (p)*

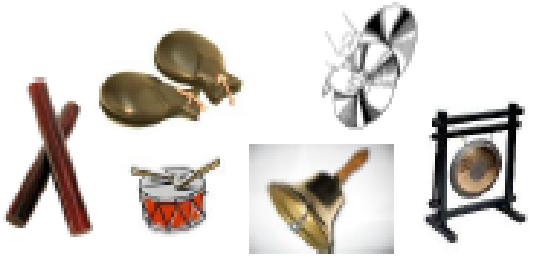
VERY SOFT: *Pianissimo (pp)*

GETTING LOUDER: *Crescendo (cresc.)*

GETTING SOFTER: *Diminuendo (dim.)*

D. Duration

The length of a sound.



SHORT ⟶ LONG

E. Texture

How much sound we hear.

THIN TEXTURE: *(sparse/solo)* – small amount of instruments or melodies.

THICK TEXTURE: *(dense/layered)* – lots of instruments or melodies.

F. Timbre or Sonority

Describes the unique sound or tone quality of different instruments voices or sounds.

Velvety, Screechy, Throaty, Rattling, Mellow, Chirpy, Brassy, Sharp, Heavy, Buzzing, Crisp, Metallic, Wooden etc.

G. Articulation

How individual notes or sounds are played/techniques.

LEGATO – playing notes in a long, smooth way shown by a **SLUR**.

STACCATO – playing notes in a short, detached, spiky way shown by a **DOT**.

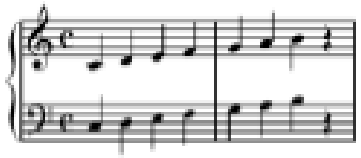
H. Silence

The opposite or absence of sound, no sound. In music these are RESTS.

I. Notation

How music is written down.

STAFF NOTATION – music written on a STAVE (5 lines and spaces)



GRAPHIC NOTATION/SCORE – music written down using shapes and symbols to represent sounds.

FOUNDATIONS Exploring the Elements of Music

Exploring Treble Clef Reading and Notation

KEYBOARD SKILLS

D Dynamics
The volume of the Music

R Rhythm
The order of the notation duration

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

S Structure and Form
How the composition is built

M Melody
The Tune

I Instrumentation
The instruments used by the composer

T Tempo
The Speed of the Music

H Harmony
All the musical parts that support the Melody

Language for Learning

Sounds:

SCALE – The highness or lowness of a sound or musical note.

MELODY/THEME – The main "tune" of a song or piece of music.

KEYBOARD CHORDS –Triads, broken chords, arpeggios, or Alberti bass.

OCTAVE – Notes with the same letter name but at differing frequencies

PIANO/KEYBOARD – The way in which the keys are laid out

TREBLE CLEF – A symbol found at the beginning of a stave to show high-pitched notes and is usually used for the right hand on a piano or keyboard.

TREBLE CLEF STAFF NOTATION – Music which is written down on a stave or staff using, notes clefs and other musical signs and symbols.

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

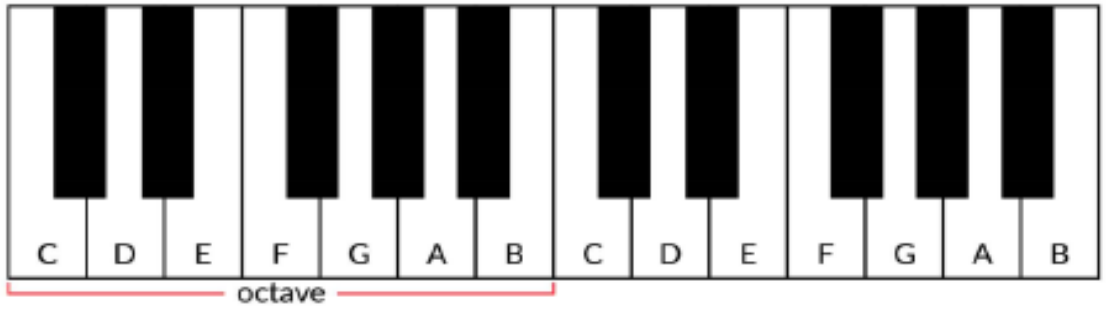
BLACK KEYS/SHARPS/FLATS – Arranged in groups of twos and threes going up a piano or keyboard.

"MIDDLE C" – The white note to the left of two black notes normally found in the centre of a piano or keyboard.

KEYBOARD SKILLS

Exploring Treble Clef Reading and Notation

A. Layout of a Keyboard/Piano

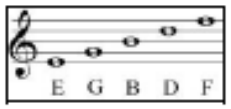


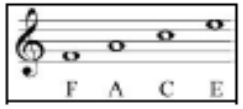
A piano or keyboard is laid out with **WHITE KEYS** and Black Keys (see section G). C is to the left of the two Black Keys and the notes continue to G then they go back to A again. Notes with the same letter name/pitch are said to be an **OCTAVE** apart. **MIDDLE C** is normally in the centre of a piano keyboard.

B. Treble Clef & Treble Clef Notation

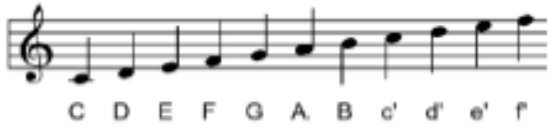
A **STAVE** or **STAFF** is the name given to the five lines where musical notes are written. The position of notes on the stave or staff shows their **PITCH** (how high or low a note is). The **TREBLE CLEF** is a symbol used to show high-pitched notes on the stave and is *usually* ised for the right hand on a piano or keyboard to play the **MELODY** and also used by high pitched instruments such as the flute and violin. The stave or staff is made up of 5 **LINES** and 4 **SPACES**.

Every Green Bus Drives Fast. Notes in the SPACES spell "FACE"





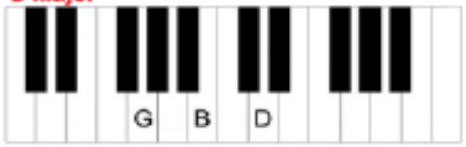
Notes from **MIDDLE C** going up in pitch (all of the white notes) are called a **SCALE**.



C. Keyboard Chords

C Major

G Major



F Major

A Minor

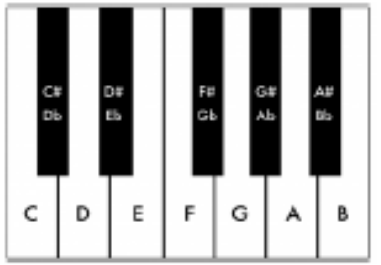
Play one – Miss one – play one – miss one – play one

D. Keyboard Functions

E. Left Hand/Right Hand (1-5)

F. Black Keys and Sharps and Flats

There are five different black notes or keys on a piano or keyboard. They occur in groups of two and three right up the keyboard in different pitches. Each one can be a **SHARP** or a **FLAT**. The # symbol means a **SHARP** which raises the pitch by a semitone *(e.g. C# is higher in pitch (to the right) than C)*. The *b* symbol means a **FLAT** which lowers the pitch by a semitone *(e.g. Bb is lower in pitch (to the left) than B)*. Each black key has 2 names – C# is the same as D*b* – there's just two different ways of looking at it! Remember, black notes or keys that are to the RIGHT of a white note are called SHARPS and black notes to the LEFT of a white note are called FLATS.



KEYBOARD SKILLS
Exploring Treble Clef Reading and Notation

"The Trials & Tribulations - Joys & Jubilations of starting at new school"

An Introduction to Drama & Theatre Studies

Drama & Theatre Studies is a three year course of study. The aim is for you to become informed, responsible and effective communicators of meaning through the disciplines of **theatre art**.

Study Focus

A key focus of this term's work is the challenges and opportunities that you each face in moving from a primary school to a secondary school. We explore these in a variety of short **scenarios** that you **devise** and fit together in a **montage**. We call these collections of mini scenes, ***"The Trials & Tribulations – The Joy & Jubilations of Changing School"***. You will be introduced to and use all of the drama skills and ideas that are listed here.

Early on we investigate some key questions such as: ***where do we belong*** and ***are we different or tshe same?*** We explore these ideas in fun, practical, whole class activities. You reflect upon them some more in a written homework task.

Essential things to learn & Practise.

- What is the, **first person singular,** how to use it and why we use it?
- Why we have a, '**Hands – Free**' policy in drama lessons
- What does **devising** mean in drama?
- What are the ***Ingredients of a Play*** and how you can use them?
- What **montage** is and how to use it to express your ideas?
- What a ***freeze frame*** is and the things to consider when making one.
- How to work **constructively** with others in a group.

1) Devise/ Devising-

This means, ***'to plan & make.'*** It is one of the key disciplines in all drama lessons. You will always use the ***ingredients of a play*** when devising. You will plan and make your own plays in groups of different sizes- sometimes on your own (we call this solo work). Later, you will learn to use your **Personal & Interpersonal Skills** (PIPS) when devising in groups.

It is important to remember that it is **devising** not **dividing.** You are more likely to do dividing in mathematics … although we sometimes divide ourselves into different groups during lessons.

Devising means…

'Planning & Making'

Key drama & theatre theory to learn and use

Montage means…
A collection of short scenes or plays based on the an idea. we base our montage on the idea of transition- of changing from one school to another

Transition means …
change- you make a **transition** when you move from one **freeze frame** to another

The Ingredients of a Play- (IOP)

- **Characters**- the **people** in the play.
- **Plot**- The **storyline** - .
- **Setting**- **Where & when** the scene is set. The **time & place.**
- **Speech** – The **words** that the characters say
- **Theme** – What the play **is about - its meaning-** its message
- **Genre** – The **style** of the play. You are using, **montage** in this SOW

Freeze Frame

This is a ***still image*** like a photograph. We use them a lot in lessons. You must be perfectly still- even your eyes. This can be difficult. It helps for you to choose one thing to focus your gaze on. Until you have more experience, it is better not to focus on another student. As there is no moving or speaking in a freeze frame, other ways of communicating become very important to consider. These are your **facial expression, posture, body language, spacing** and **levels**. Sitting, standing on a block and laying down are all **different levels**. All of these things help the audience understand what the freeze frame is about and make the stage picture more interesting. You will learn lots more about making the stage picture interesting in your third and sixth scheme of work.

Things to consider when making and studying a **freeze frame**

There is no movement or speaking in a freeze frame, so the only way that the spectators understand what is happening is through the things that they can see. We call them the visual elements. There are six and they are:

Facial Expressions
Body Language
Gesture
Posture
Space (between characters)
levels

Two guidelines for effective learning in Drama

1) Speaking in the first person singular

You will be encouraged to speak in the 1st person singular – that's: **I, me, my & mine**, when speaking about your own experience in lessons. **This allows you to 'own' your ideas, opinions, judgements and begin to take responsibility for what you are saying**. This is the most important step in your journey to becoming conscious, responsible communicators of meaning. You will be reminded and have lots of time to practise so that it becomes a habit for you in drama.

Personal Pronouns

Singular	1st Person -- **I/ me**
	2nd Person – **You**
	3rd Person – **S/he**
Plural	1st Person – **We /Us**
	2nd Person – **You**
	3rd Person – **They / Them**

Remember use; I, me, my when speaking about your own ideas and experience

2) The Hands Free Zone

Students do not generally put their hands up in class unless they want to ask a specific question or have a request or emergency.

Most class activities and discussions take place without raising hands. The teacher will invite different students to contribute at different times so that everyone participates in lessons.

The teacher will always, either;

Give you an opportunity to discuss and prepare a response first with other students or,

Frame the question in such a way as you cannot be wrong. ..

We are not interested in being right, or wrong- we are interested in learning. **So, no hands!** (unless there is an emergency of course).

You will be reminded and have lots of time to practise so that it becomes a habit for you in drama.

Key drama & theatre ideas

Scenario

We use this word to mean the outline of a story, a situation or an idea for a role play.

Montage

We use this word to mean a collection of short plays all based around the same **idea** or **theme.** Your theme will be the opportunities and challenges that people face when changing their situation, like changing from primary school to secondary school, for example.

Multi role play

Playing more than one character. You will be required to play different characters in different situations in your montage work on ***Trials & Tribulations…***

Contrast

This means, different. You will be encouraged to play contrasting characters in each of your short scenes. You will also need to contrast your **settings** and the **moods** of your chosen scenes.

Key new skills

Personal & Interpersonal Skills (PIPS)

Working with others can be difficult. They may have different ideas to you, they may not have any ideas, they might not listen to you etc. It can be tricky…PIPS are the skills and qualities that you need to work effectively in a group, they include: **tolerance, courage, kindness, honesty** and many more. You will have opportunity to think of others that should be included when you design your PIPS poster for home work.

Assessment

You will be assessed the quality of your ideas when devising your group plays. You will also be assessed on how skilfully you construct your plays and perform your roles. You will be assessed on your understanding and practical mastery of the 6 ingredients of a Play, the 6 things to consider in a freeze frame and your facility with using PIPS in group work

Tasks that you may do in this topic

You will do a whole range of activities including role plays, freeze frames, completing scene capture sheets, devising and discussion.

You will do a series of tasks designed so that you can find out some things about your classmates, and yourself.

You will learn to devise a series of short scenes around the theme of changing school and you will learn how to play a character in your plays.

You will learn how to edit your scenes and fit them together in a collection that we call montage.

You will use the freeze frame techniques that you learned to punctuate and separate your different scenes

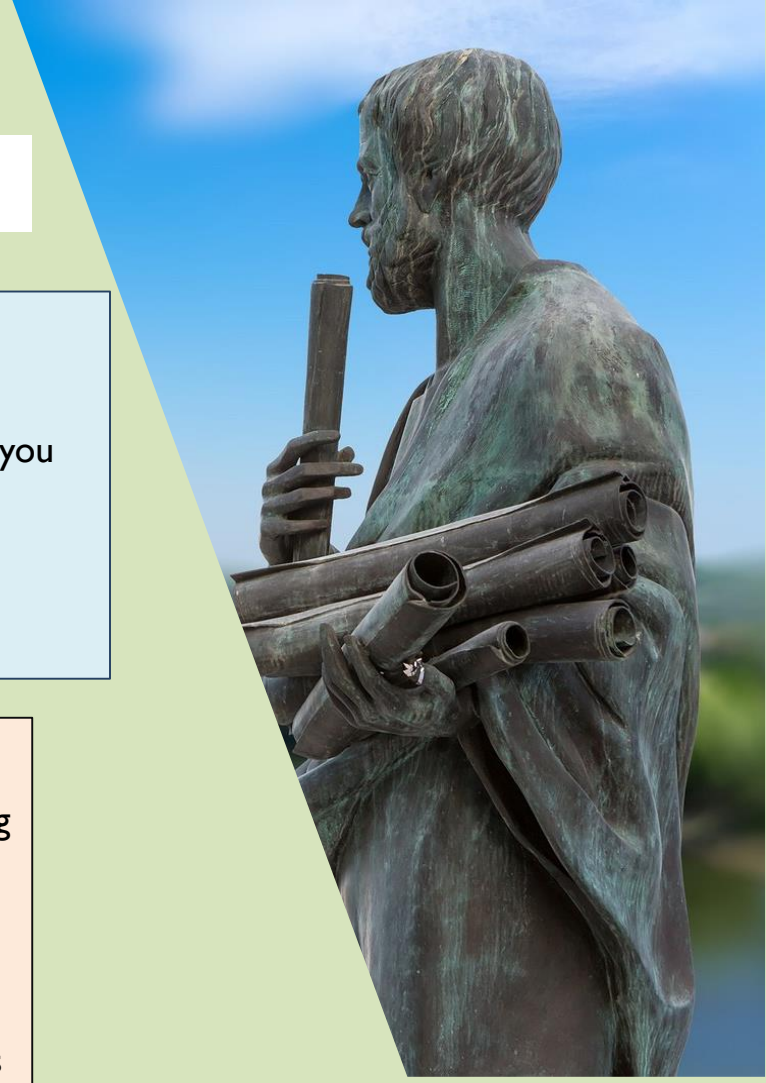
You will do these alone and in groups. You will be busy!

Key Questions – key themes – to consider.

- Are we the **same**, or are we **different?**
- **Where** do I belong?
- What **challenges** do we encounter when our life situation changes – what are the **opportunities?**
- What are the skills and qualities I need to work effectively with others?

Term 2

Classic Play Structure & the *Well Made* Play



Things that you will learn in this scheme

You will learn how to **develop** and **structure** the plays that you **devise.**

In the first scheme of work you learned how to devise several short plays around a theme. In this scheme of work you learn how to extend a play using Aristotle's ideas on dividing a play into a Beginning, Middle & End.

You will learn some techniques on how to use your voice and body to communicate effectively.

You will, also learn how to analyse & evaluate a piece of drama work using key adjectives that we call, Evaluative Vocabulary.

Aristotle 385 BC – 323 BC

An Ancient Greek philosopher living almost 2500 years ago. **Aristotle** was one of the first people in the West to have serious ideas about drama and the theatre. The idea of ***The Ingredients of a Play*** that we use in most lessons here at Trafalgar are developed from his ideas of drama. The idea of thinking about a play in three parts; beginning, middle and end was originally one of **Aristotle's** ideas. **Aristotle** had very definite ideas about what each section of a play should communicate to its audience. You will learn some of these as you make your own play and study an extant text.

Study Focus

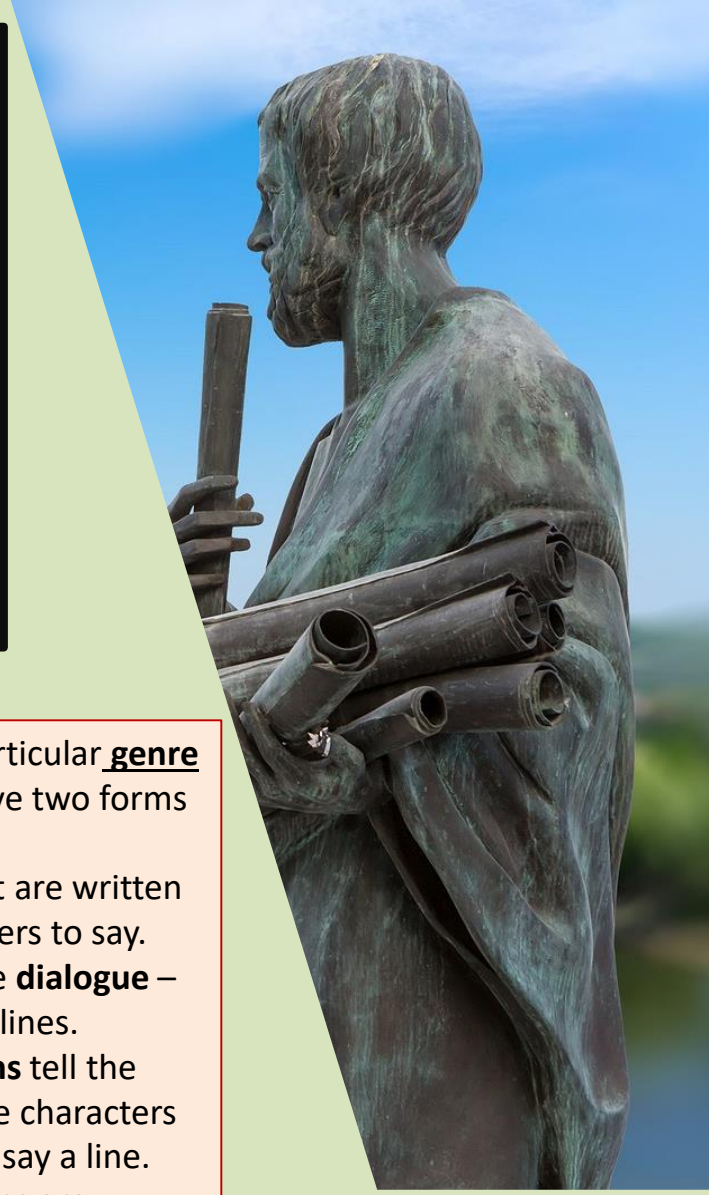
In this scheme of work you will practise your devising skills using the ***Ingredients of a Play (IOP)*** that you first met in the **Devising** scheme of work. You will work in a small group once more and use your new knowledge of **Classic Play Structure**, to plan and make a more substantial play of about 5 – 10 minutes duration. You will learn and practise using **PIPS** so you can work **effectively** and **constructively** with others in a close knit and supportive group. You will find out more about assessment in drama and learn some of the **Evaluative vocabulary** so that you can **analyse** and **evaluate** a class performance effectively while speaking in class and in writing for homework.

A statue of Aristotle – can you find out who made it and when they made it?
What has he got in his arms?

Classic Play Structure.

Aristotle's ideas are deceptively simplistic: plays have a **Beginning, Middle & End**. This is his idea of how a play should be **structure**d. Each of the 3 sections has a particular job to do in terms of the whole play and its impact on an audience:

- **Beginning scenes-** introduce the characters, show what they are like and their relationships. They begin the story (the plot). They show the setting (where and when the play/scene is set) and they give us any back story that we need.
- **Middle scenes** – These develop the story and move it on. The main character(s) encounter a problem, a difficulty, something that changes their plans, their journey and makes them change tack. It is a pivotal point in the play.
- **End scenes-** The problems and difficulties are all resolved. In a comedy there is a happy ending often contained in a wedding or a celebration party.



Actors/ characters- what's the difference?

Drama students often confuse these two things, so let us be clear from the beginning. Actors 'play' characters. In drama lessons you will often work, 'as an actor' and you will play a character. This may be a character that you make up in your devising or a character in a written play script. You will get to look at this difference very clearly in our next scheme of work.

Actors 'play' characters

***La Piece Bien Faite* - The Well Made Play.**

A French playwright built on Aristotle's ideas and came up with some very strict rules about how plays should be set out and ordered (structured). Each section of a play had a specific part to play in the workings of the plot and the effect it has on the audience. There are quite a few parts and they have grand and exotic names (for an English speaker) like, ***peripeteia*** and ***denouement.*** Our simple use of the ideas of; **Introductions, Developments** and **Resolutions**, come from these ideas.

Play writing is a particular **genre** of writing. Plays have two forms of writing:

1) **The words** that are written for the characters to say. We call this the **dialogue** – the characters lines.
2) **Stage directions** tell the actors what the characters do and how to say a line. (**stage directions are written inside brackets**)

You will practise structuring your play in the ***Classic Style***

How actors communicate and show the audience what their character is like

A key task will be to adapt a classic fairytale for the stage- we sometimes call this, dramatising a story. It is a good task as we approach Christmas

In this scheme of work…

We take a closer look at the ways that you, as an actor, can communicate your characters to your audience.
An actor can show what their character is like through their movements and actions. We call this, through their, 'body'. An actor can also show what their character is like and what they are feeling through the way that they use their voice.

Remember to say, **I, me** and **my** when talking about your own experience. Remember that the Studio is a **hands free zone.**

How we talk about things in drama

Actors show what their character is like through the way they speak (voice) and through the way they use their body. We say that these are the two ways that an actor COMMUNICATES their character, thoughts and feelings. So, when I ask how you communicate your character, I am asking how you showed what they are like by the way that you use your voice and body

The actor's use of voice

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

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

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

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

The actor's use of body

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

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

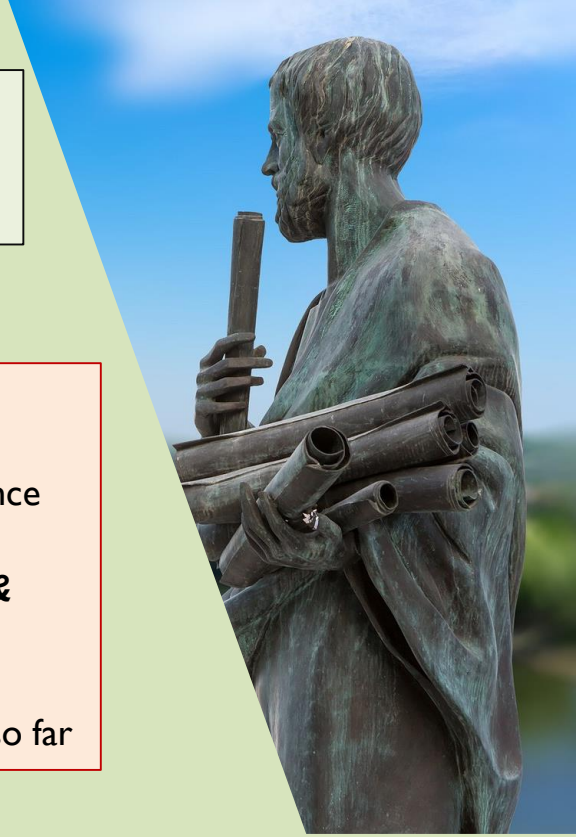
Gesture- We make gestures with our hands and head mostly. Gestures can 'say,' 'everything is okay' or, a pointed index finger at someone can show that the character is telling that person off.

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

Intellectual skills: no 1: **Evaluating**

Evaluating is the skill that involves saying how good or bad you think something is. In drama we use our **Evaluative vocabulary** instead of writing, ***'good'*** or '***bad***'.
You will have the opportunity to **evaluate** one of your classmates' plays in discussion and in a written task. You will need to use some of the **Evaluative Vocabulary** words in the box below

Can you see the **value** in e**valu**ate ?? When we evaluate, we are giving a piece of work a value – we are saying, how much it is worth.



Homework Tasks

These may include;

1) An evaluation of a class performance using EV.
2) A full colour poster of ***Personal & Interpersonal Skills (PIPS)***
3) Some scripting of a scene.
4) A quiz that checks your learning so far

Using the things that you learn- applying my knowledge
USE IT OR LOSE IT

You will use the theatre skills and social skills that you learn here in all of the drama work that you do from now on in all the your years studying drama at Trafalgar. You will use the IOP in all devising tasks. You will use PIPS whenever you are working with others. We will refer to classic play structure in several future schemes of work, including Melodrama in terms 5 & 6.

Key things to take from terms 1 and 2

Speak in the **1st person singular**, remember the **hands free zone,** be kind and useful when working with others and a play is made from its **ingredients.**

USE IT OR LOSE IT

Evaluative Vocabulary (EV)

These are words that enable you to evaluate drama work specifically instead of saying something is, 'good' or 'bad' which doesn't mean very much in drama.

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

Assessment in Drama

By assessment we mean the thoughts that we have about how you are doing at any given time. We use two different types of assessment and they have quite posh names: **formative assessment** and **summative assessment. Formative assessment** is where we look at your work and suggest things that you can do or stop doing which would improve your rate of progress. In **summative assessments**, we simply make a judgement about the quality of your work and usually give it a grade or level.
Formative assessment of your practical and written work is given often. Sometimes you may receive lots in one lesson, particularly if you are at a place where you are ready to make lots of progress. It is a good idea to write down the **formative assessment comments** that you receive in your book. You should certainly **remember** them and **work** on them. **Summative assessments** are given once a term.

Expectations and Routines

Football

Physical Ability and Technique

Effort and Engagement

What constitutes a Warm-up in Football?

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

Can you plan a warm-up for Football?

Basic Rules:

1. Game is started by kicking the ball from the centre spot.
2. The U12 game has 9 players – goalkeepers, defender, midfielders and attackers.
3. Referee and two assistants will officiate the game.
4. If a ball goes over a touch line a throw in is taken. If an attacker kicks over the goal line it is goal kick and if a defender kicks it over the goal line it is a corner.
5. To score the ball must cross the opposition's goal line.
6. The offside rule also applies where an attacker is in front of all opposing defenders when the ball is kicked.
7. Handball- It is forbidden to touch the ball from your finger tips to shoulder. Unless you are the goal keeper.

Game Understanding:

- How do you keep the ball low when passing and shooting?
- What technique would you use to tackle a player?
- Why is jockeying important?
- Research the different types of formations and positions.

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.

Dribbling: Dribbling allows you to move the ball quickly around the pitch using the inside and outside of your feet and keeping the ball close to your feet and your head up.
Turning with the ball and outwitting a defender: Turning with the ball allows you to change direction using different techniques, such as dragging the ball back with the sole of your boot. Outwitting and opponent allows you to beat a defender using different techniques such as a step over.
Controlling the ball: Using different parts of the body – this could be the feet or thigh. Remember to cushion the ball.
Passing: There are 3 types of passes. Side foot pass, driven pass with the laces and a lofted pass. Using the side of the foot allows you to pass accurately over a short distance, a driven pass allows you to pass the ball on the floor, but a greater distance. Finally, a lofted pass allows you to lift the ball in the air over players. Remember to keep your standing foot next to the ball when you make the pass.
Shooting: There are different types of shots that allows you to score goals. Your instep can be used to control and place the ball into the goal. If you use your laces then this allows more power to be produced.
Attacking – keeping possession: Making a number of passes allows your team to keep possession and advance up the field.
Tackling: Techniques – tackling, jockeying and forcing the player onto their weaker foot.

Expectations and Routines

Netball

Physical Ability and Technique

What constitutes a Warm-up in Netball?

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

Can you complete an appropriate warm-up independently?

The basic rules of Netball:

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

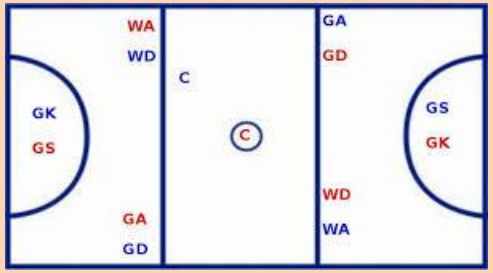
Game understanding:

- Which rule do you think is the most important?
- Where does each of the positions start on the court and where are they allowed to go?
- How do you create space to receive a pass?
- How can you stop your opponent getting the ball?
- When is it the best time to make a move to receive a pass?

Effort and Engagement

Implementation of the Academic Standards to the PE Environment:

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



Footwork: Pivoting

When a person lands on one foot when receiving the ball they are allowed to use the other foot to move themselves around the spot to see where your team mates are.

1. Leap into the air to catch the ball and land on one foot.
2. As you land on one foot you use your second foot to move your body around looking for more options of players to pass.

Passing:

Chest pass

1. Thumbs and index fingers form a W shape. The remaining fingers should be spread behind the ball to push it away.
2. Elbows should be kept low and close to the body. Feet should be shoulder width apart.
3. Keep the ball close to your chest.
4. Fingers facing forward, push the ball towards to the chest of the receiver to create a flat, strong pass.
5. As you push the ball forward, step forward with one foot.

Dodging:

- Wide stance so you are balanced and can move off in either direction quickly.
- Drop a shoulder to make it easier to move.
- Run, stop and change direction as needed to lose opponent.

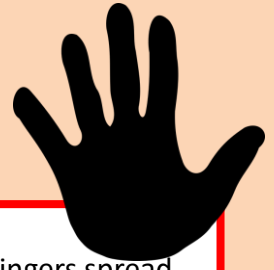
Shooting

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

Expectations and Routines

Rugby

Physical Ability and Technique



What constitutes a Warm-up in Rugby?

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

Can you complete a team warm-up ready for the game?

Basic Rules

1. Game is started by kicking the ball from the centre spot forwards.
2. The U12 game has 12 players and 20 min half.
3. Referee and two assistants will officiate the game.
4. The ball must be passed backwards.
5. If a ball goes over a touch line an uncontested lineout is taken. 6. To score the ball must cross the opposition's goal line.
7. Tackling – Must be below the shoulder.
8. 5 player scrum –strike, no push.
9. Ruck and maul – unlimited.
10. Fend-off below armpits.

<u>Game understanding:</u>

- How do you keep the ball flat when passing?
- Explain what scoring is in Rugby?
- What technique would you use to tackle a player?
- Why is keeping shape important?
- Research the different reasons that scrum may be used.

Effort and Engagement

Implementation of the Academic Standards to the PE Environment:

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

<u>Passing</u>: Hold the ball in two hands with your fingers spread across the seam, with your chest facing forward. Draw the ball back across one hip, keeping your elbows slightly bent, as you turn your chest away from the target.
Sweep the ball off your hip as you swing your hands through an arc, keeping your elbows close to your body. Release the ball with a flick of the wrists and fingers.
Follow through with your fingers pointing to the target - chest high in front of the receiver. **The pass must go backwards.**

<u>Tackling</u>: Tower of power, cheek to cheek, ring of steel.

<u>Defending</u>: A defensive line is a flat line to minimise gaps between players.

<u>Scrum</u>: The scrum is a means of restarting play. The ball is thrown into the middle of the tunnel between the two front rows, at which point the two hookers can compete for the ball, attempting to hook the ball back in the direction of their team-mates, they can bring the ball to the hindmost foot of the scrum, where the ball is then passed into the back line and open play resumes again.

<u>Ruck:</u> A ruck is formed if the ball is on the ground and one or more players from each team who are on their feet close around it. Players must not handle the ball in the ruck, and must use their feet to move the ball or drive over it so that it emerges at the team's hindmost foot, at which point it can be picked up.

Expectations and Routines

Skills and Fitness

Physical Ability and Technique

Effort and Engagement

Why do we warm-up?	
Prevent injury	To loosen the muscles and increase heart rate and body temperature
Raise heart rate	To increase blood flow to working muscles
Increase flexibility	Increases the range of movement at a joint.
Increase mental alertness	Warm-up prepares the performer mentally and makes then alert ready for performance

Skill-Related Components of Fitness:	
Agility	The ability to move and change direction quickly, at speed, whilst maintaining control.
Balance	The ability to keep the body stable by maintaining the centre of mass over the base of support. There are two types of balance – Static and Dynamic
Co-ordination	The ability to use two or more different parts of the body together, smoothly and efficiently
Power	Strength X Speed
Reaction time	The time taken to start responding to a stimulus.
Speed	Distance ÷ time

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.

What components of fitness are important to perform the following skills?:

- Dodge in netball
- Score a goal in football
- Throw or run with a ball
- Serve in Tennis
- Maintain a rally in Badminton

Can you add your own examples:

Self Assessment of knowledge

- What is it to be healthy?
- What is the recommended amount of physical activity you should do on a daily basis?
- Can you carry out an appropriate warm-up?

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.

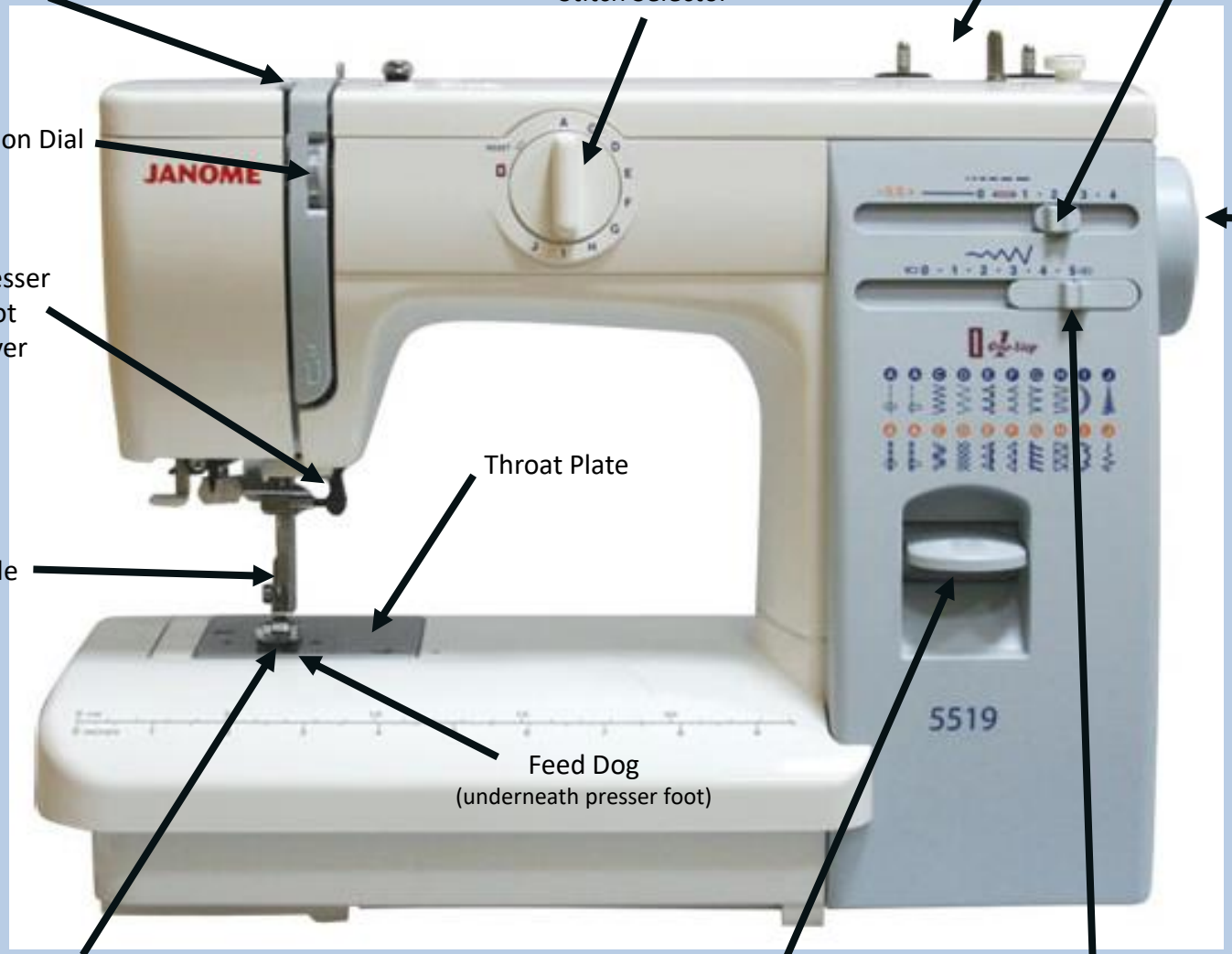
Hazard: any feature of a situation which may cause harm or injury.

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.

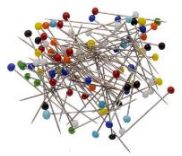


Bobbin Compartment

Bobbin

Bobbin Case

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 Erasble 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.**

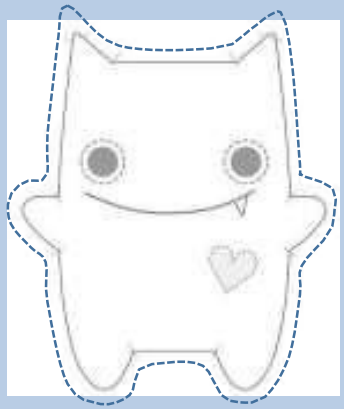
A **seam allowance** is the space between a stitching line and the edge of the fabric.

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.

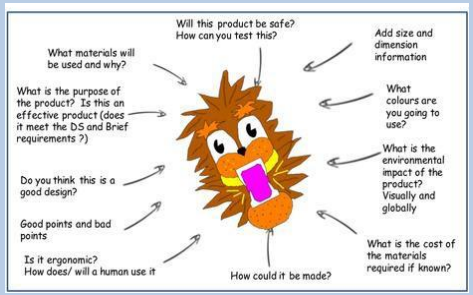
Seam Allowance



Designing

Communicating your ideas with others.

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



Annotation

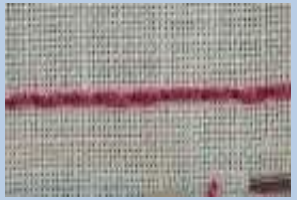
Adding short explanations to your design ideas to help explain your designs further.

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

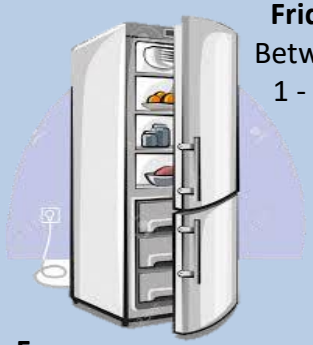
What are Nutrients?
Nutrients are the building blocks that make up food and have specific and important roles to play in the body. Some nutrients provide energy while others are essential for growth and maintenance of the body.

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

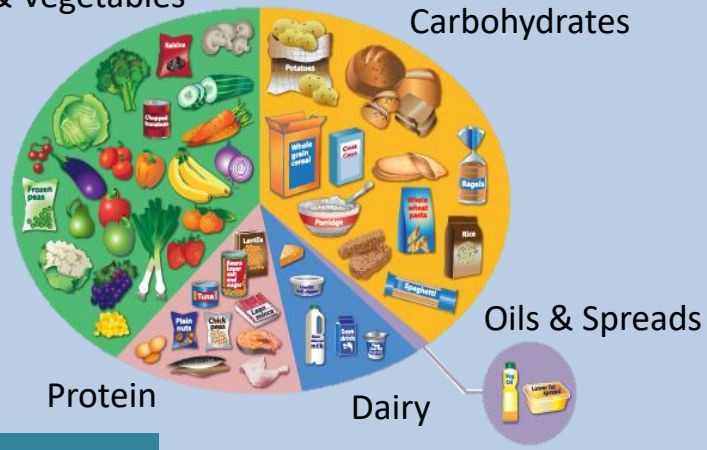
Knife Skills

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

Design and Technology

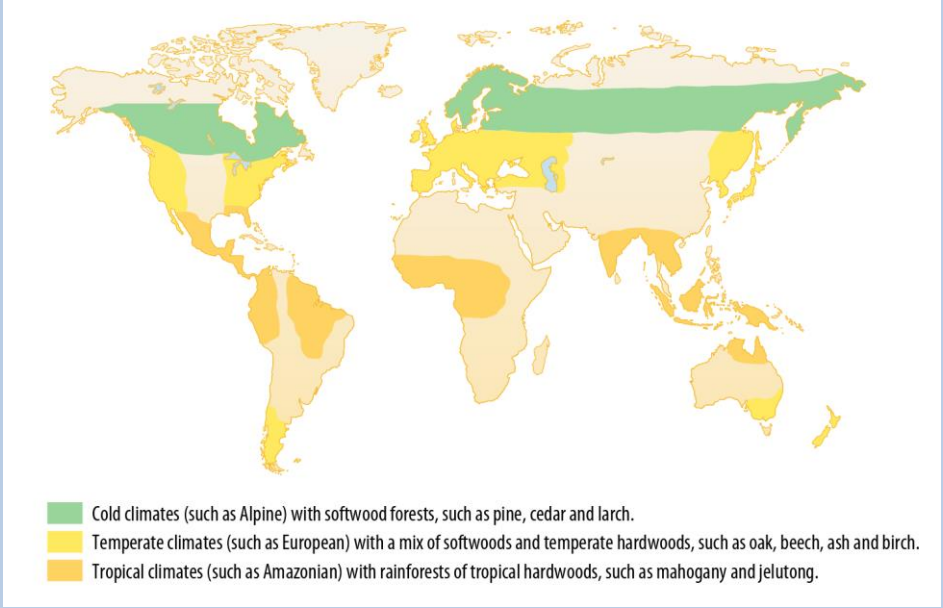
Timber is wood that has come from tree trunks and has been dried and cut into planks. Timber has been used as a building material for thousands of years to make homes, furniture and tools. Timber is still used a lot as trees grow naturally, their wood is easy to work with and it is relatively strong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

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

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.

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.

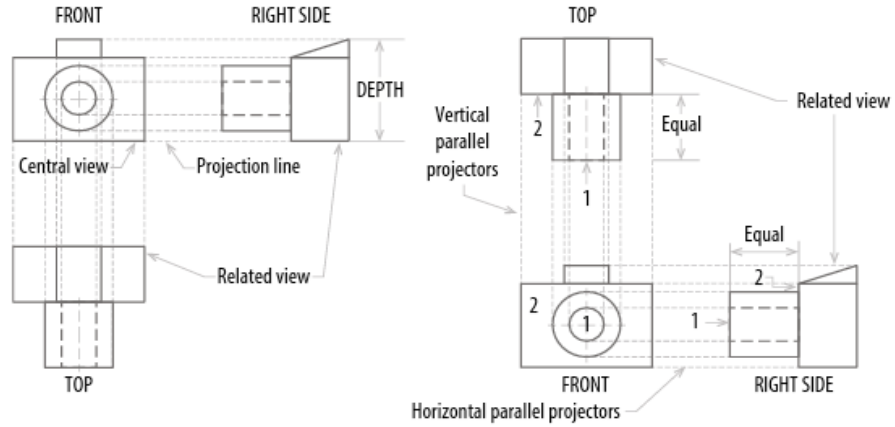
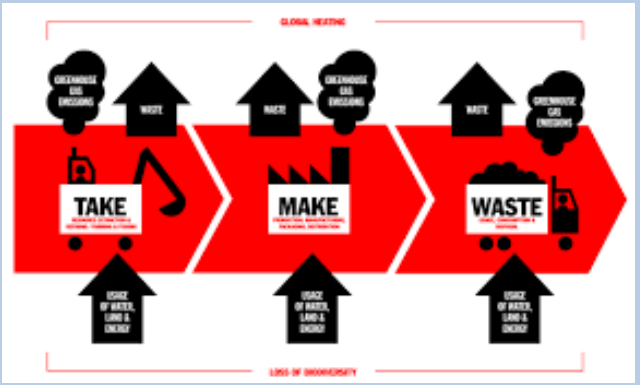
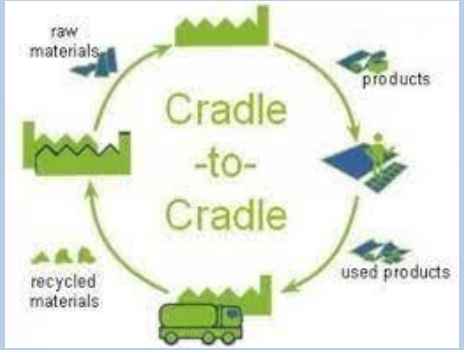


Figure 1.17.7 First and third angle projections for orthographic projection showing all sides of the product

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?