Year 9
Autumn Term

Knowledge Expert Booklet

Knowledge Organisers

- You should always have this booklet with you **every day**.
- The knowledge organisers contain the key facts, dates, events, characters, concepts and vocabulary you must memorise to succeed this year and in your future studies.
- Use your green exercise book for **self-quizzing**. It may be set for extended learning or during a form period.
- Use the following method for self-quizzing:

Read a section of your knowledge organiser and try to memorise it	Repeat it to yourself from memory until you think you have got it right.
Cover it up	Put your Knowledge Organiser sheet away so that you cannot copy it. This will mean that your brain will have to work harder, meaning it is more likely to stay in your long-term memory.
Write it out	Put the date and title in your self-quizzing book. Write out what you can remember. Even if you are finding it difficult, do not look back at your KO, but think hard and challenge yourself to find that answer. Always take pride in your work, so write neatly, taking good care of spelling, capital letters and punctuation.
Check it	Refer to your KO sheet and check your work against it.
Correct it	Make corrections using a green pen and continue this process until you can recall the information.

How should you use your knowledge organisers? – 20-minute plan	
20 minutes Quizzing	Select the relevant parts of the knowledge organiser to quiz from – this could be key terms from English, or key formulae from Maths. It should only be small chunks of information. Spend 3 minutes reading and re-reading the section of the knowledge organiser. Spend 2 minutes trying to recall the information in your head or say it out loud. You could ask yourself 'how' and 'why' questions. This is called 'Elaboration'. Put your KO away and write out the topic and answers relevant to the information – use your self-quizzing book for this. Spend about 10 minutes on your Qs and & As. In your self-quizzing book, spend the last 5 minutes checking your answers by looking again at the knowledge organiser and writing any corrections in a green pen. Remember to correct any spelling errors by writing them out again.
Flash Cards	Another way to revise from your knowledge organiser is to put the information onto flashcards. Put key terms / key questions on one side of the card, then the definition / answer on the other side. Either test yourself or ask somebody else to test you.
Online learning	Quizlet, Memrise, and Brainscape are examples of free learning platforms which will help you learn in a fun way. You could use the information on your knowledge organisers to create your own quizzes. You would then be able to use these regularly.

Art

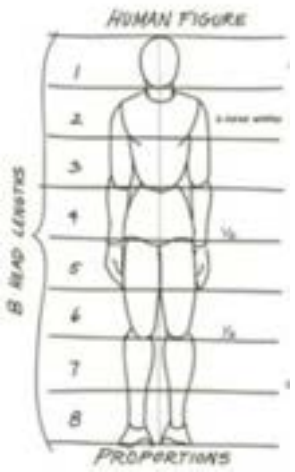
Year 9 – Drawing Skills 3
Figure Project
Knowledge Organiser

You will learn -
- How to draw the human figure in proportion
- How to add tone to create 3d folds on clothes

Working At

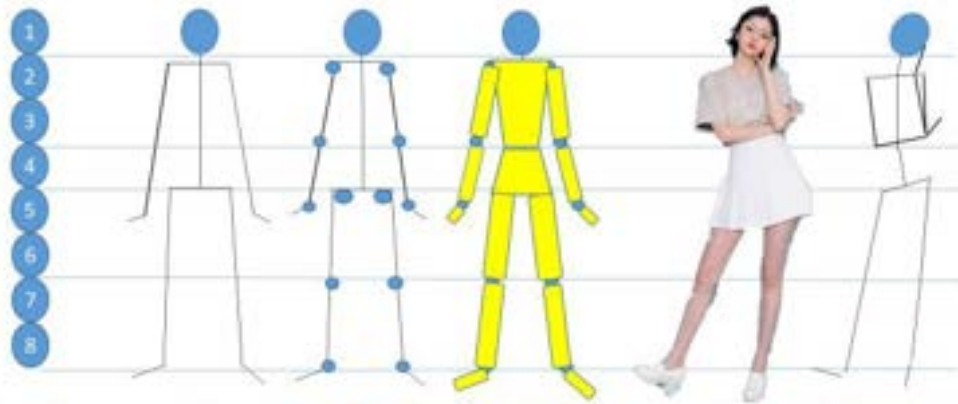
Working Above

Assessment 1 – Apply the knowledge and skills learnt to draw a figure using accurate proportions and to create 3D folds on the clothes



Most artists draw the figure 8 heads long

How to draw the human figure in proportion



The human figure is 8 heads long

Draw lines to create a stick figure

Draw circles for the joints

Draw shapes for the body parts to create the form of the figure

Apply this method to draw figures in different gestures and poses

How to create 3D folds on clothes

Core shadow – darkest tone where the light can't reach

Highlights – where the light is reflecting

Contrast– The darkest tone next to the highlights make a strong contrast creating form and the illusion of 3d folds.

Proportion – Size of the parts of the figure like the hands in relation to the whole figure

Realistic – Accurate representation of the human figure

Gesture – A movement of part of the body, especially a hand or the head, to express an idea or meaning

Drawing a basic female figure step by step	**https://www.youtube.com/watch?v=nr9GgmTNb2o**
How to draw hands starting with 3 simple shapes	**https://www.youtube.com/watch?v=dMiO2umgE78**
How to draw clothes – shading cloth and folds	**https://www.youtube.com/watch?v=37-UB4_gJpM**

Computer Science

Term 1a – Cybersecurity – Year 9

What is Cybersecurity?

Protecting networks, computers, programs and data from attack, damage or unauthorised access through the use of technologies, processes and practices.

Social Engineering

Blagging – inventing a scenario to convince someone into giving out information.

Phishing – Sending emails pretending to be from legit companies to get information of an individual. Usually has a link to a fake website, spelling, and grammar errors.

Shouldering – looking over someone's shoulder while they are entering personal information. For example, at an ATM.

Pharming – Being redirected to a fake website.

Cyber Attacks

Types of hacking:

Brute Force Attack - A brute force attack tries every combination of password until you get the right one.
Denial of Service (DoS) – Floods a network with so many requests that it cannot process them and breaks the computer down.

Malware:

Virus – installed on your computer without your permission with the intention to do harm. Spread through email attachments or file downloads.

Trojan – Pretends to be harmless but attacks your computer. It is spread by emails.

Spyware – Gathers information about a user without them knowing.

Ransomware – Software that is designed to block access to a computer until money is paid.

Keywords

Hacking – Accessing information without permission of the owner.

Malware – Malicious software. A program that is designed to cause harm to your computer.

Social Engineering - Manipulating individuals so they give away personal information.

Network – A group of two or more computers that are connected.

Cyberattack – An attack on a computer network.

Methods to detect and prevent cyber attacks

Penetration testing – used to find security weaknesses by attempting to access resources without knowledge of usernames, passwords etc.

Firewalls – device used to monitor incoming and outgoing traffic and decides whether to block it.

Anti-virus software – prevents malware from entering.

User authentication – users must be verified before they connect to a network.

Password systems – ensures passwords are strong.

Biometric measures – For example, using your fingerprint to access a smartphone.

User permissions – what users can and can't access on the computer.

3b Knowledge Organiser – Binary Basics

IMAGES

Images are made up of pixels
The colour of each pixel is represented by a binary number
If an image uses 1 bit to represent each colour then it will only have 2 colours:

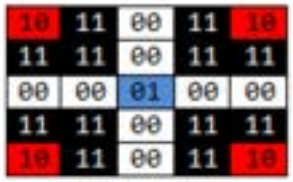
0	0	1	0	0
0	0	0	1	0
1	1	1	1	1
0	0	0	1	0
0	0	1	0	0

This is a 1-bit image so it uses 2 colours.

0=white and 1=black

Using more bits allows for more colour options:

10	11	00	11	10
11	11	00	11	11
00	00	01	00	00
11	11	00	11	11
10	11	00	11	10



This is a 2-bit images so it uses 4 colours.

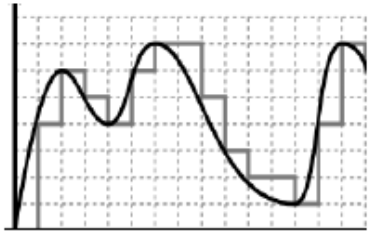
00=white,
01=blue, 10=red,
11=black

Colour depth = the number of bits used for each pixel

SOUND

When sound is recorded it is an analogue signal (waves). It has to be converted to a digital signal so that it can be stored by a computer. This is done by sampling

Sampling: The amplitude of the wave is measured at regular intervals which creates a digital representation of the wave. If samples are taken more frequently then you will end up with a more accurate sound file but it will be a larger file size.



The analogue wave is smoother and shows continuous data. The digital sampling shows the amplitude of the wave at different points.

CHARACTERS

Character sets = the characters that are recognised or represented by a computer system

ASCII = Each character is represented by a 7 bit number with a 0 in front to make it up to a byte.

Extended ASCII = Each character is represented by an 8 bit binary number. This gives 256 different possibilities.

Unicode = Each letter is represented by a 16-bit or 32-bit binary number. This gives at least twice as many character options as ASCII and allows the character set to represent characters and symbols from all languages.

DENARY

Denary is the decimal number system that we are used to. It uses the numbers 0-9 and the column headings go up in powers of 10.

100 (Hundreds)	10 (Tens)	1 (Units)
2	3	8
2 lots of 100	3 lots of 10	8 lots of 1

BINARY

Binary uses the numbers 0 and 2. The column headings go up in power of 2:

128	64	32	16	8	4	2	1
0	1	0	0	0	1	1	1

64 + 4 + 2 + 1 = 71

HEXADECIMAL

Hexadecimal uses 0- F (A=10, B=11, C=12, D=13, E=14, F=15). The headings go up in powers of 16.

16	1
3	D
3 lots of 16	D (13) lots of 1

3* 16 = 48
D (13) * 1 = 13
48+13=61

To convert a binary number to Hexadecimal, split into 2:

8	4	2	1
0	0	1	1

= 3

8	4	2	1
1	1	0	1

= D

BINARY ADDITION

```
  1 0 0 1 0 1 0 1
+ 1 1 0 1 1 0 1 1
1 1 1 1 1 0 0 0 0
1     1 1 1 1 1
```

This binary addition gives an overflow error as the total does not fit in 8 bits (a byte).

BINARY SHIFT

A binary shift to the left multiplies the number by 2. A binary shift to the right divides it by 2. Below is an 8 bit binary number which has been shifted 2 places to the right.

Original number	1	1	0	0	1	1	0	1
Shifted number	0	0	1	1	0	0	1	1

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Dance

Hillcrest School
& Sixth Form Centre

Year 9 Dance
Unit 2: Professional Dance Study

What is the dance style?

Musical Theatre: is a genre of drama in which singing and dancing play an essential part.

Link to the dance

https://www.youtube.com/watch?v=NbDgfOTsHDA

Key info... **Title of film: The Greatest Showman**
Name of dance: 'Come Alive'
Name of choreographer: Ashley Wallen
Dance style: Musical Theatre
Set in: New York City, 1850's

Performance Criteria:

1. **Posture**
2. **Timing**
3. **Movement memory**
4. **Extensions**
5. **Facial expressions (smile)**
6. **Project your energy**
7. **100% effort throughout**

Key Features of the genre Musical Theatre

Musicals are set out to entertain through a combination of:

- ❑ catchy music in a popular style
- ❑ solo songs, duets, choruses and ensembles
- ❑ orchestra or band accompaniment
- ❑ spoken dialogue
- ❑ dance sequences, stage spectacles and magnificent costumes

These are all held together by the plot.

Drama

BLOOD BROTHERS

Features of form	
1. A didactic play	A drama which intends to teach, especially with regard to morals.
2. Tragedy	An event causing great suffering, destruction and distress.
3. Parallels and contrasts	Parallels – similarities. Contrasts – differences.
4. Narrator	A person who gives the spoken account of something. Omniscient to remind the audience about the ending of the play.
5. Stage directions	An instruction in the text of the play indicating the movement, the position or tone of an actor, or the sound effects and lighting.
6. Song	A single work of music that is typically intended to be sung by the human voice. It is through the songs that the characters reveal their true thoughts and feelings.
7. Dialogue	A conversation between two or more people.
8. Montage	A series of short sequences are edited into a sequence to condense space.
9. Foreshadowing	A warning or indication of a future event.
10. Symbols and motifs	A thing that represents or stands for something else. A motif is a dominant or recurring image of idea.
11. Accent and dialect versus Standard English	Standard English is any form of the English Language that is accepted as a national norm. Accent is a distinctive way of pronouncing a language. Dialect is a particular form of language which is peculiar to a specific range or social group.

Set from 1960 – 1980
In Liverpool, England

Key Themes

Superstition
Violence
Nature Vs Nurture
Social Class

Context	
Willy Russell	1. Born into a working class family. 2. He grew up near Liverpool. 3. Father had various jobs including mining and factory work. 4. Annoyed at treatment of intelligent working class and associated stereotypes. 5. Left school at 15 with just one O'level: a D in English Language. Went to evening classes and university to become a teacher.
Liverpool	6. A major port and the centre for trade providing lots of jobs at the docks. 7. During the Industrial decline, Liverpool became very vulnerable as the docks were shut and unemployment rates soared. 8. Some men turned to crime and gangs in order to support themselves and their families. There were also riots in 1980s.
Margaret Thatcher	9. Prime Minister in 1979. 10. Reduced the power of the trade unions and closed down many factories etc leading to widespread unemployment.
Skelmersdale	11. In the 1960s the government began building New Towns. These were small, existing towns which were extended and redeveloped to provide more housing for nearby cities. 12. Working class families were rehoused here in the 1960s.
Class	13. Working class vs Middle class divide 14. More opportunities for middle classes reflected in education, job prospects and wealth.
Education	15. The Education Act of 1944 led to 'secondary modern schools' and 'grammar schools.' 16. Top 20% went to a grammar school with an academic curriculum. Secondary modern taught more practical subjects. 17. 7% of students were educated in private, fee-paying schools. The average boarding school fees in the 1960s would have been approximately 25%.

Characters	
1. Mrs Johnstone	Naïve, loving and maternal, caring, rash, strong, generous, good, selfless, uneducated, superstitious, lively, zesty, trapped, victim, helplessness,
2. Mrs Lyons	Lonely, cold, wealthy, dependent, inconsiderate, pampered, self-centred, manipulative, over-protective, anxious, unreasonable, mad
3. Mickey	Friendly, excitable, adventurous, sneaky, cast-off, wants to impress, shy, determined, bright, witty, hard-working, ambitious, trapped, victim
4. Edward	Friendly, generous, naïve, restricted, impulsive, lacks compassion, condescending, sneaky
5. Sammy	Aggressive, threatening, sarcastic, anti-social, criminal, hostile
6. Linda	Kind, compassionate, feisty, humorous, strong-willed, supportive, protective, poor, untrustworthy, desperate

English

Vocabulary

Egotistical 	Absorbed by own thoughts / self-centred.
Tyrannical 	Using power in a cruel way.
Posthumous  	Something appearing after the death of the person who created it.
Patriotism 	Vigorous and passionate support and love for ones country.
Reverence 	Deep respect for someone or something
Relentlessness 	Something unforgiving that does not stop
Frangible 	Being able to be broken in bits
Sanctuary 	Safety from pursuit or danger
Resurgence 	Coming back after being a period of little popularity or activity
Stereotypical	An oversimplified idea of a particular type of person or thing
Propaganda	the dissemination of information—facts, arguments, rumours, half-truths, or lies—to influence public opinion
Protest Poetry	Protest poetry cries against a wrong to be set right.
Slam Poetry	A live competition in which poets perform original poetry and are judged.

Skills

ANALYSIS = (AO1) WHAT + (AO2) HOW + WHY + (AO3) CONTEXT
ANALYSIS using PEAZ:
Point: Read and show you have understood the text
Evidence: Use evidence from the text to support your ideas
Analysis: Analyse how the writer has created an effect using subject terminology and explore its intended effect on the reader
Zoom: Zoom in on a key word/phrase and explain its significance
Context: Show appreciation of the context of the poem and use it to inform your analysis
Comparative Paragraph Structure:
Link (Comparative Point) – name of poem and poet – link to question and identify a key difference or similarity
EAZ – Poem 1
Comparing Connective
EAZ – Poem 2

5 Ss

Stride – walk confidently to the front of the room
Stand – Stand at the front, making eye contact with your audience
Smile – Smile at your audience: put them at ease and allow yourself to relax
Speak – Speak clearly and confidently to your audience
Stay – Do not rush to get back to your seat; stay at the front to give a sense of confidence

Big Questions

How can poetry portray both a sense of power and a lack of power?
How can poetry be a response to war?
How can poetry be seen as a form of war propaganda?
How can poetry be seen as challenging war propaganda?
How can we ensure that a soldier's sacrifice is never forgotten?
How can poetry express suffering yet be cathartic?
What is protest poetry?
How can poetry highlight social injustice?
What is slam poetry?
How can poetry be a form of self-expression?

Terminology

Imagery	A visual description that creates a picture in your mind
Simile	A comparison between two things that are not alike using the words 'like' or 'as'
Metaphor	A comparison between two things that are not alike where one thing is said to be something else
Personification	Describing a non-living thing as if it's a person
Juxtaposition	When the writer puts two ideas, events, characters or descriptions together to encourage the reader to contrast them
Pathetic fallacy	Giving human emotions to objects or aspects of nature, in order to create a certain mood.
Dramatic Monologue	a form of poetry that uses the assumed voice of a single speaker who is not the poet to address an implied audience
Semantic field	A group of words related in meaning.
Sonnet	A 14 line poem, with a clear rhyme scheme. Usually focuses on love.
Free-verse	Poetry that doesn't rhyme and has no regular rhythm or line length.
Enjambment	When a sentence or phrase runs over from one line to the next.

Comparison Connectives

Similarly	In contrast / Contrastingly
In the same way	On the other hand
Also	However
In addition	Whereas

Tentative Phrases

Could	Maybe
Might	Possibly
May	Perhaps
Appears	Seems to

Hawk Roosting – by Ted Hughes (1960)

Hawk's viewpoint is used to show its dominance in nature. It is in awe of its creation, kills brutally and indiscriminately. It has always been this way in nature, and the hawk doesn't want it to change.

The poet was fascinated by animals a farmer for a short while. Also he studied Anthropology – the behaviour of humans throughout history. Hawk was a Nazi symbol. Poet using hawk as a metaphor for the way leaders like Hitler abuse power.

'My hooked head and hooked feet'
'And the Earth's face upward for my inspection'
'My manners are tearing off heads'
'The allotment of death'
'I am going to keep things like this'

Ozymandias – by Percy Shelley (1818)

Considers the faded power of a ruler who had a statue erected for him, that now lies in ruins in the desert.

Poet inspired to write poem when British museum got hold of a large fragment of the Egyptian Pharaoh Rameses II. Shelley's wife, Mary Shelley – fascinated by Science at the time – obsessed with living on after death. Hated Royalty, and written as warning to arrogant rulers. A Romantic - Nature would always be more powerful.

'Two vast and trunkless legs of stone'
'And sneer of cold command'
'My name is Ozymandias, king of kings: Look on my works, ye Mighty, and despair!'
'Nothing beside remains'
'Boundless and bare, the lone and level sands stretched far away'

A Wife in London – by Thomas Hardy (1899)

A wife waits alone in the gloomy London fog. She receives news of her husband's death by telegram, the next day ironically she receives a love letter from him.

About the Boer War and a soldier's death. Communication channels bad in 19th century. Poet separated from wife. Wife died. He still loved her though and read her letters after her death – links to voice from beyond the grave idea.

'She sits in the tawny vapour'
'Like a waning taper the street lamp glimmers cold'
'Flashed news .. He – has fallen – in the far South Land'
'The fog hangs thicker'
Fresh – firm – penned in highest feather'

The Soldier – by Rupert Brooke (1914)

An idealistic representation of fighting and dying for one's country, written before the true horrors became apparent. Captures the mood of optimism.

Written before the war started and has an idealistic view of war (in direct contrast to 'Dulce ..')
Form of war propaganda – originally entitled 'The Recruit'
2 million men ended up dying in WW1.

'There's some corner of a foreign field that is forever England'
'In that rich earth a richer dust concealed'
'A dust whom England bore, shaped, made aware'
'A pulse in the eternal mind'
' In hearts at peace, under an English heaven'

Dulce et Decorum Est – by Wilfred Owen (1917)

Considers the horror and lies told about the glory of war and dying for one's country, with an account of a gas attack.

Latin – 'It is sweet and honourable to die for one's country' – Propaganda message of the time.
Owen experienced WW1 first hand and believed this to be a lie.
Use of mustard gas was a chemical first used by German army in 1917 – led to agonising death.

'Bent double, like beggars under sacks'
'Men marched asleep'
'He plunges at me, guttering, choking, drowning'
'His hanging face, like a devil's sick of sin'
'The blood came gargling from the froth corrupted lungs, obscene as cancer'

Mametz Wood – by Owen Sheers (2005)

Explores the waste of life within a Welsh regiment sent to fight and die at Mametz Wood and never given credit. As the farmers find their bodies, their voices are heard again, and we remember them.

Part of Battle of the Somme – bloodiest battle of WW1.Mametz Wood – much bigger undertaking than Generals thought – 600 died, 4000 injured. Bravery not acknowledged at the time. Welsh poet fascinated by history/identify of the Welsh.

'For years afterwards the farmers found them – the wasted young'
'The china plate of a shoulder blade'
'The blown and broken bird's egg of a skull'
'And even now the earth stands sentinel'
'In boots that outlasted them'

The Manhunt – by Simon Armitage (2007)

A soldier with physical and emotional pain. His wife supports him towards recovery.

Armitage wrote the poem as part of a Channel 4 documentary entitled *Forgotten Heroes: The Not Dead* - Eddie Beddoes – peacekeeper in Bosnia, shot, PTSD. Rebuilding relationship with wife. Armitage aimed to highlight the distress caused by war and PTSD.

'The frozen river which ran though his face'
'Handle and hold'
'Feel the hurt of his grazed heart'
'The foetus of metal beneath his chest'
'Unexploded mine buried deep in his mind'

POWER: Exploring the theme of social and political influence over others

- Shelley – Ozymandias
- Hughes – Hawk Roosting

CONFLICT: Exploring the emotions felt from conflict, and the political and social issues that stem from conflict.

- Hardy – A Wife in London
- Brooke – The Soldier
- Owen – Dulce et Decorum Est
- Sheers – Mametz Wood
- Armitage – The Manhunt

PROTEST: Exploring the theme of self-empowerment, self-expression and challenging authority.

- Angelou – Still I Rise
- Zephaniah – No Problem
- Acevedo – How I feel about Attention
- Acevedo – Spoken Word
- Acevedo – Slam Prep

Vocabulary

Sublime 	A thought and emotion beyond ordinary experience.
Convention 	A way in which something is usually done.
Tension 	Mental or emotional imbalance.
Trepidation 	A feeling of fear or anxiety about something that may happen
Psychopath 	A person suffering from a chronic mental disorder with abnormal or violent social behaviour
Sagacious 	Having or showing good judgement
Supernatural 	Caused by forces that cannot be explained by science.
Brutality 	savage physical violence that inflicts great cruelty
Eerie 	Strange and frightening.
Doppelganger 	An apparition or double of a living person.
Grotesque 	Things that are very strange and ugly in an unnatural way.
Resurrection 	the concept of coming back to life after death.
Apprehension 	A feeling unease about something that could happen.
Transgression 	Going against the rules.

Key Reading Skills

Retrieval - AO1
This is where you find key pieces of information in the text. The information can be implicit or explicit. We answer these using bullet points.

Inference - AO2
This is where you analyse the writer's use of language and its effects. We answer these using point + quote + inference

Evaluation - AO4
This is where you reflect on how the text makes you think and feel about the topic. We answer these questions using I think + quote + inference

Big Questions

What is the Gothic canon and how can I recognise it?

How has Romanticism influenced the Gothic?

What are the key themes and characters in Gothic fiction?

How can I analyse language and structure?

What is the uncanny and the sublime and how does it apply to Gothic texts?

What is authorial intent and how can I use it to develop my analysis?

How are women portrayed in Gothic texts?

Gothic Conventions:

Damsel in Distress	A lonely, pensive, and oppressed heroine who is often alone and trapped and terrorised by a villain or monster. They are very pure, innocent women who often faint and need saving.
Femme Fatale	This means fatal woman in French. The femme fatale is a being of sexuality and femininity, enchantment and mystery. She uses her appeal or her sexuality to entrap men.
The Uncanny	This is a Freudian theory. The idea that something old and familiar can be corrupted or distorted in some way and this can create fear and dread. This often involves the idea of Doppelgangers in gothic literature.
The Sublime	The sublime is a feeling that you experience when you see or experience something extra-ordinary.
Setting	Settings in Gothic literature are often desolate and spooky. They can be set in churches, graveyards, haunted houses, dark forests or prisons.
Power	The Gothic world often explores differences in power. The idea of being trapped, in a conflict with yourself or with something else.
Supernatural	Gothic is world of doubt. They often explore the idea of things beyond human power, reason and knowledge.

It tells the story of Manfred, the prince of Otranto, who is keen to secure the castle for his descendants in the face of a mysterious curse. The novel begins with the death of Manfred's son, Conrad, who is crushed to death by an enormous helmet on the morning of his wedding to the beautiful princess Isabella. Faced with the extinction of his line, Manfred vows to divorce his wife and marry the terrified Isabella himself.

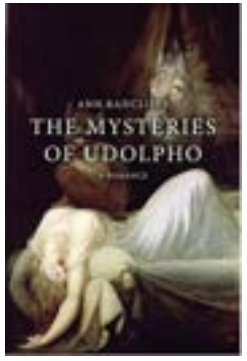
A gothic tale about an unstable narrator who decides to murder his landlord. The narrator is plagued by his hatred of the old man's eye which evokes great terror in the narrator. Eventually, the narrator murders the old man and buries him beneath the floorboards. However, when the police come to investigate, the narrator is convinced he can hear the old man's dead heart beating and confesses.

Dracula is an epistolary novel by Bram Stoker. It is the story of Jonathan Harker travels to Count Dracula's home in Transylvania, and Dracula imprisons him. Dracula then travels to London, where he targets Harker's fiancé, Mina Murray. Dracula attacks Lucy Westenra, Mina's friend, and turns her into a vampire. The group tracks Dracula back to Transylvania and kills him.

The novel chronicles the fall from power of the Caliph Vathek, who renounces Islam and engages with his mother, Carathis, in a series of licentious and deplorable activities designed to gain him supernatural powers. At the end of the novel, instead of attaining these powers, Vathek descends into a hell ruled by the fallen angel Eblis where he is doomed to wander endlessly and speechlessly.

It tells the story of a clever scientist who wishes to push the realms of science to its limits. He creates a potion and experiments on himself. When he drinks the potion, the respectable Dr Jekyll transforms into a sinister version of himself called Mr Hyde. Mr Hyde is an animalistic and cruel man who commits many sins including murder. Eventually, Mr Hyde gains control over Dr Jekyll and no longer needs the potion to be released.

It details the story of two families on the Yorkshire moors called the Lintons and the Earnshaws. The Earnshaws adopt a boy called Heathcliff who is wild in his temperament. Heathcliff falls in love with Catherine Earnshaw who is torn between wanting to be a proper lady and wanting to be wild with Heathcliff.



When Emily's father dies, Emily is forced to live with her aunt whose husband, the Italian nobleman Montoni, endeavours to force Emily to marry his friend, Count Morano. An archetypal villain, Montoni is cruel and power-hungry, imprisoning Emily and his wife at his secluded castle called Udolpho. Emily is terrified by the strange and gruesome things she discovers in the castle.

Frankenstein tells the story of gifted scientist Victor Frankenstein who succeeds in giving life to a being of his own creation. However, this is not the perfect specimen he imagines that it will be, but rather a hideous creature who is rejected by Victor and mankind in general. The Monster seeks its revenge through murder and terror.

Ebenezer Scrooge is a mean-spirited man who refuses to use his money to help those in need – not even his own family or his employee Bob Cratchit. As such, he is visited by four ghosts: his old business partner Jacob Marley, the Ghost of Christmas Past, Present and Future. By the end of the story, Scrooge has transformed into a kinder, more philanthropic man.

Arthur Kipps, a junior solicitor, is sent to settle the affairs of Alice Drablow. He sees a woman dressed in black at her funeral, though apparently no one else does. At Eel Marsh House, a house beyond a causeway, Arthur is haunted by the woman. It is explained that a child dies each time the woman in black is seen. At the end of the story, Arthur sees the woman in black again and his wife and son die.

Geography

Year 9 - **Knowledge Organiser** - Term 1A

UK Ecosystems

1. Global ecosystems

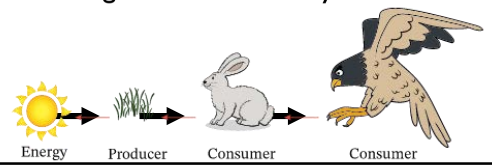
Biome: A global-scale ecosystem.
The world's major biomes include:
- Tropical rainforest - Hot desert - Polar
- Deciduous forest - Coniferous forest
- Tropical grassland (savanna) - Tundra
- Mediterranean - Temperate grassland

2. Ecosystem components

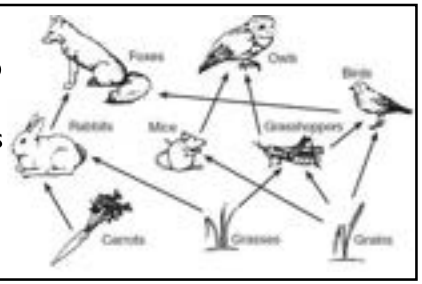
Biotic: Living things, e.g. plants / animals
Abiotic: Non-living things, e.g. water
Producers: Make their own food (plants)
Consumers: Eat other organisms.
Decomposers: Break down material
Nutrients: Substances needed for growth

3. Food chains and webs

A **food chain** shows the links between different organisms in an ecosystem.



A **food web** shows more detailed links than a food chain.



4. The UK's ecosystem

The UK's natural ecosystem is **Temperate Deciduous Forest**.
Characteristics include:
- Trees shed leaves in winter
- High rainfall (500 - 1,500 mm per year)
- Average temperature is 0 - 25°C

5-6. Fieldwork: Hillcrest

Enquiry question: A question that you can answer from carrying out fieldwork.
Primary data: Data you collect yourself.
Secondary data: Data from elsewhere.
Quadrat: A tool with squares that can be used to measure ecosystems.

7. Changes to the UK ecosystem

Extinctions: Many larger animals are now extinct in the UK, e.g. lynx, wolves, moose.
Hedges: Many hedges are being removed, causing habitats to be lost.
Greenbelt building: Countryside around cities is being lost as new homes are built.

8. Rewilding

Rewilding: Restoring an area of land to its natural state.
Rewilding at **Knepp Castle,** West Sussex increased rare species e.g. turtle doves.
Beavers are being reintroduced. They have not been in the UK for 400 years.

	Key Term	Definition
1	**Ecosystem**	A community of **plants** and **animals** and their interactions with each other and their **physical environment**.
2	**Rainforest**	An area of forest with **high rainfall**, typically over 2,500 mm per year.
3	**Desert**	An area with a **dry climate**, it receives less than 250 mm of rain each year.
4	**Temperate**	A mild climate (not very hot, not very cold).
5	**Deciduous**	Trees that lose their leaves in winter, then grow new ones each year.
6	**Extinction**	When a species no longer exists in an area.
7	**Deforestation**	The removal of trees from an area.
8	**Hedgerow**	A row of hedges, often found along roads or the edges of fields.
9	**Greenbelt**	An area of countryside around a city.
10	**Greenfield site**	An area of land that has not been built on before.

Key question:

To what extent can threats to ecosystems be managed?

History

Knowledge organiser: **History basics**

10,000-500 BC Prehistoric	500BC-450AD Classical	450-1500 Medieval	1500-1800 Early Modern	1800-present Modern





1	What is history?	History is the study of the past. The word 'history' comes from the Greek language, *historia* means finding out about something. History is the story of how people lived and developed over time. We can learn why events happened and how society has changed over time.
2	What is a historian? 	History is ongoing and people are finding out new things about the past all the time. Historians might study a certain part of the past that they are interested in, such as the Victorians or women's history. They use **sources** and evidence to learn about the past. There are many different historians, for example Miranda Kauffman who has written about the lives of Africans in Tudor England, and David Olusoga, who has written many books about black history.
3	What skills do historians need?	In history, you need the skills to study sources and evidence and to work out what this can tell us about the past by asking questions about **provenance**. Historians create interpretations and make a judgement about what they think happened. Historians also decide how **significant** different events were. In history, you will develop skills in literacy (writing) and analysis.


Stonehenge was built in prehistoric Britain


Modern drawing of Roman Britain


King John, a Medieval King


The Tudors, an Early Modern royal family


Factories during the Industrial Revolution: from the Modern period

Time periods in History

1	Prehistoric	Prehistory is the time before people were writing things down, so we cannot use written sources to find out about it. Instead, we find out about it just using objects.
2	Classical	Classical or Ancient history in Europe is when the Greek and Roman empires were powerful. In Britain, this is when the Romans ruled Britain – 50**BCE**-450**CE**.
3	Medieval	Medieval (sometimes called the Middle Ages) is split into 3 sections: Early, High and Late. In Britain in this time, kings ruled, there were lots of battles and the Christian church was very powerful.
4	Early Modern	This is when the Tudors and Stuarts were in charge in Britain. It was a time of big change in religion and power, with kings, queens and religion becoming less powerful.
5	Modern	The modern era started with the Industrial Revolution and comes right up to now! The World Wars are included here.
6	BCE	Before the Common Era (sometimes known as BC). This refers to years that come before '0' on a timeline.
7	CE	Common Era (sometimes known as AD). This refers to years that come after '0' on a timeline. For example, the Battle of Hastings in 1066 CE

Key terms: **History basics**

Word	Definition and characteristics	Examples in a sentence
cause	A cause is something that makes another thing happen. Reasons for something happening.	World War II was **caused** by Adolf Hitler.
consequence	Something that happens as a result of something else; the effects or impacts. A consequence can be positive or negative.	A **consequence** of the British Empire was the terrible treatment of Aboriginal Australians.
change	When something becomes different over time.	Women's rights have **changed** a lot in the last 100 years.
continuity	When something stays the same over time.	There was a lot of **continuity** during the Medieval period, as the Church had power throughout.
significance	When something is historically important, both at the time and now (short term and long term)	Magna Carta was a **significant** document because it is still important today.
source	Something produced at the time that tells us about a time in history, a document or object made when the event was happening	The historian used the **source** to tell the story about the people who lived in the past.
interpretation	Something produced after the event that contains a historical judgement or opinion about the event.	The historian created an **interpretation** about what happened.
inference	An idea or conclusion about what the source/interpretation is saying based on what you can see/read and your knowledge of the context.	The pupil made an *inference* about the source using her subject knowledge.
source/ interpretation content	What you can see or what is said/drawn etc. in the source/interpretation.	The **content** of the source showed a cartoon of the political leader.
source/ interpretation context	Your historical knowledge of what was happening at the time the source/interpretation is talking about.	The historians used their knowledge of the **context** to work out when the source could have been made.
source/ interpretation provenance	This is the five 'wh' questions: **What** is it? **Who** made it? **When** was it made? **Where** was it made? **Why** was it made?	The historian used the **provenance** of the source to find out if it was truthful.

Knowledge organiser: **Epidemics in Britain: what has changed?**

Black Death 1348-1350 | Great Plague of London 1665-6 | Smallpox outbreaks 1700s-1900s | Cholera epidemics 1840s-70s | 'Spanish' Flu 1918-19 | HIV/AIDS epidemic 1980s-90s






	Science & medicine	Role of government	Society
Black Death	Lack of scientific understanding: religion was the main way people understood the world. Theories based on the disease being a punishment from God, position of stars/planets, or four humours theory. People did know that it was dangerous to come into contact with infected people	King Edward III's government did little; some local councils responded, e.g. Gloucester tried to shut itself off from the outside world when the plague got to nearby Bristol (without success)	Antisemitism was widespread in Medieval Europe, and in many parts of Europe, Jewish people were falsely blamed for causing the disease. The Black Death led to huge changes in society due to such a big proportion of the population dying – the remaining peasants demanded higher wages, leading to tension between peasants and landowners
Great Plague of London	Still little understanding of science; similar ideas about religious causes and the four humours theory. Responses included bloodletting	King James II's government did little, but London councils took public health measures such as quarantining infected people and banning big gatherings	This was shortly after England had changed from a Catholic to a Protestant country, so anti-Catholic prejudice came to the surface – some thought the plague was a punishment for King James II's marriage to a Catholic
Smallpox	The scientific basis of disease was not known, but people did know that previous exposure to disease gave immunity. Edward Jenner's vaccination shows the successful use of the scientific method, with careful testing of an idea	The government encouraged vaccination and, eventually, made it compulsory in 1853. Throughout the 19th and 20th centuries, widespread vaccination campaigns led to smallpox being the first disease ever to be declared eradicated in 1980	Before the vaccination, the inoculation method was brought to Britain by a woman, Lady Mary Montagu, who had found out about it in Turkey; misogyny and xenophobia contributed to people's fears about this procedure . The response to smallpox contributed to a changing role of government in preventing disease
Cholera	Scientific basis of disease not known – most people believed miasma theory. By this time, people could observe micro-organisms under microscopes, but didn't know their role in disease. John Snow's experiments proved that cholera was carried in contaminated water, though many did not believe his ideas	The government brought in Public Health Acts, which increased the role of government in public health. They also funded a new sewage system for London, which brought cholera outbreaks to an end.	Cholera came to Britain from India; existing prejudice led to discrimination against Indian people, who were blamed for the disease. The response to cholera led to a greater role for government in public health, e.g. through the Public Health Acts
'Spanish' flu	By this time, people understood that micro-organisms cause disease. There were some scientifically-based treatments to help symptoms (such as aspirin to reduce fever), but no flu vaccination or cure – there is still no cure for flu	The government worked with other governments worldwide to make the Health Organisation (which later became the World Health Organisation), which co-ordinated disease responses across the world	In many countries, it was given a 'foreign' name, demonstrating people's distrust in people from other countries, including the name 'Spanish flu' (it wasn't actually from Spain). Like many countries, the UK has not done much to remember the victims of Spanish flu, because it is so tied up with the trauma of WWI.
HIV/AIDS	People understood how viruses worked, but to start with this new virus was poorly understood. Eventually, research led to a fuller understanding of the disease.	The government was slow to act, but eventually launched an information campaign to spread the message that anyone could get the disease, and put money into treatments. By this time, the NHS gave free healthcare to everyone.	Existing homophobia led to people blaming gay men for 'bringing disease on themselves'. Homophobic attitudes also led to a lack of willingness from government to fund research into the disease to start with.

Key terms: **Epidemics in Britain: what has changed?**

Word	Definition	In a sentence
antisemitism	Discrimination towards Jewish people (people of the Jewish religion *or* people from Jewish communities).	Responses to the Black Death showed antisemitism.
epidemic	A widespread outbreak of an infectious disease in a country or community.	There was an epidemic of bubonic plague in London in 1665, known as the Great Plague of London.
eradicate	Remove completely; wipe out	Smallpox was declared eradicated by the World Health Organisation in 1980.
four humours	A now disproved theory of illness, which stated that the body is made up of four liquids that have to be in balance for a person to be healthy – believed until the 1800s.	As people believed in the theory of the four humours at the time, bloodletting (letting blood run out) was a response to the Black Death.
germ theory	The idea, proven by Louis Pasteur in the 1860s, that micro-organisms (bacteria, viruses and fungi) are the causes of disease.	After germ theory became widely accepted, people understood the scientific basis of disease.
homophobia	Discrimination towards gay or LGBTQ+ people.	Responses to HIV/AIDS showed homophobic attitudes.
laissez-faire	Literally 'leave alone' (from French) – the attitude, widespread until the 20th century, that it was not the job of the government to get involved in people's lives.	*Laissez-faire* attitudes meant that government-run public health systems were limited.
misogyny	Discrimination towards women.	People's misogyny meant they didn't believe a woman could have introduced an effective medical procedure to prevent smallpox.
pandemic	An epidemic affecting many countries	The HIV/AIDS pandemic started in the 1980s and is still ongoing
public health	The actions of government or other large organisations to prevent disease and keep the population healthy.	The government started taking a more active role in public health in the late 19th century.
vaccination	A medicine which teaches the body's immune system to fight off a disease. From the Latin word 'vacca' meaning 'cow', due to Jenner's research.	Edward Jenner developed the first vaccination.
xenophobia	Discrimination towards people from other countries.	Xenophobia was evident in people's responses to cholera.

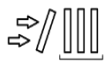
Knowledge organiser: **Why did the world go to war in 1914?**

1839	1905	1906	1911	1912-1913	June 1914	August 1914
Treaty of London	Schlieffen Plan	Austria-Hungary annexed Bosnia	Agadir Crisis	Balkan Wars	Archduke Franz Ferdinand is shot	Start of WWI

Key developments

1	Kaiser, King and Tsar	At the start of the 20th century, the royal families in Russia, Germany and Britain were all related. These three countries along with France and Austria-Hungary were very powerful in Europe. All the powerful European countries wanted to be the most powerful, which led to rising tension.
2	Long term causes	The four long term causes of WW1 spells out the word MAIN. **Militarism, alliances, imperialism** and **nationalism.** These causes had existed for a long time. Every one of Europe's powerful countries believed in its own greatness and wanted to be better than others. There were two main alliances in Europe. The Triple Alliance was Germany, Italy and Austria-Hungary. The Triple Entente was Britain, France and Russia.
3	Treaties	The Treaty of London was an agreement in Europe to respect not be involved in war. However, the Schlieffen Plan (1905) was a battle plan stating that Germany could invade via Belgium.
3	Territory and empires	In 1906, Austria-Hungary took over Bosnia, gaining control for themselves. Germany supported this, but this made Serbia and Russia angry. Another cause was the wish of the countries in an area of south-east Europe called the Balkans to become fully independent from the Ottoman Empire (an empire of modern-day Turkey), which led to the Balkan wars. Additionally, it was accepted by Europe that Morocco was part of the French Empire. But, in the Tangier Incident, Kaiser Wilhelm II went to Tangier (in Morocco) and made a speech emphasising Morocco's independence from France. This made France angry.
4	Franz Ferdinand	The **assassination** of Archduke Franz Ferdinand in June 1914 by Gavrilo Princip was a short term cause (trigger) for WW1 due to the alliances formed by the countries involved.

Key terms: **Why did the world go to war in 1914?**

Word		Definition and characteristics	Examples in a sentence
short term cause		A reason why something happens. Something happens that provokes an immediate action. Something that happens for a limited period of time. Can be called a trigger or a catalyst.	A *short term cause* of WW1 was the assassination of Franz Ferdinand.
long term cause		A reason why something happens. Something that has been happening for a long time (years, decades etc.), makes something else happen.	There were many *long term causes* that contributed to the event happening.
militarism		A desire to have a large and great army and navy to match those of others, and to be prepared to use it to protect national interests.	Kaiser Wilhelm's focus on *militarism* meant that there was a lot of expenditure on the army.
alliances		Agreements or friendship between countries with the aim to support each other and maintain peace.	Germany, Austria-Hungary and Italy formed the Triple *Alliance*.
imperialism		The desire to build or strengthen an empire as a show of power, often using force to colonise areas of land.	The countries struggled to fight off *imperialism*.
nationalism		Belief that your country is the greatest and having great pride in your country. **or** Belief that your country should gain independence from an empire or larger country so that it can run itself.	The powerful countries in Europe were nationalistic. There were nationalist feelings in the smaller nations in the Austro-Hungarian Empire.
assassination		The murder of an important person for a political or religious reason.	The king was worried about an *assassination* attempt.

Knowledge organiser: **How similar were frontline experiences in World War One?**

August 1914	1915	1915-1916	1916, June-Sep	1916, July-Nov	1918	November 1918
Outbreak of WWI	Conscription introduced in Britain	Gallipoli Campaign	Brusilov Offensive	Battle of the Somme	1600 mile march by King's African Rifles	End of WWI







Key people, ideas and developments

1	Theatres of war	A theatre of war is an area in which important military events occur. There were several theatres in the First World War, for example Western Europe, East Africa, North Africa, Eastern Europe, Central Asia and the Atlantic Ocean.
2	Recruitment	Many countries, including Britain, introduced conscription at some point during the war. This is when people are forced to join the military. There were also poster campaigns to encourage people to join, either as soldiers or in support roles. People in colonies of the British Empire were encouraged to join but not conscripted.
3	Trench warfare	A lot of the First World War, in many different theatres, was fought using a method called trench warfare. This was when large, long ditches were dug as a defensive position, with the enemy trench a short distance away. Battles would involve gunfire between the trenches or going "over the top" – i.e. out of the trench towards the enemy. Conditions were very difficult, with diseases common, rat infestations, and poor-quality food. People experienced trauma as they saw friends die and faced very dangerous situations.
4	Black and Asian soldiers	Black and Asian soldiers played many roles in the Frist World War. Black British people joined the miliary in the normal way. The first Black officer in the British Army was Walter Tull. Black people from across the British Empire (e.g. in Africa and Jamaica) also joined the military. Some of them were in combat roles and others were in support roles. Many soldiers from India also fought for the British Empire. For example, Khudadad Khan became the first Indian to be given the highest bravery medal, the Victoria Cross.
5	Military medics	An important role near the front lines was in medicine. This was a time that women were starting to be allowed to train as doctors. Two women, Flora Murray and Louisa Garret Anderson, set up a very successful military hospital. Another doctor, Harold Gillies, came up with new ways to reconstruct faces that had faced terrible wounds from the battlefield. Many women worked as nurses. They faced trauma because they had to witness traumatic injuries and be with soldiers as they were dying far away from home.
6	Battle of the Somme	This was a battle in which the British Army tried to break out of the **stalemate** of trench warfare by sending lots of soldiers towards the German enemy. It turned out the planning had not been done effectively, and nearly 20,000 British soldiers were killed on the first day alone: the most destructive single day in the history of the British Army. The Battle achieved few of its aims and is widely considered a disaster. However, it did lead to some changes in strategy.
7	Gallipoli Campaign	This **campaign** took place in what is now Turkey. The Ottoman Empire (Turkey) was fighting on the same side as Germany. Troops from Australia, New Zealand, India and Britain tried to make a breakthrough against the Ottomans, but the campaign was a disaster with 480,000 Allied soldiers, and 65,000 Ottoman soldiers, killed.
8	Brusilov Offensive	This was a campaign by the Russian commander Brusilov against the Austro-Hungarian Empire. It was successful because of the tactics used: a short, sharp **bombardment** to exploit weak points, followed by a surprise attack.
9	East Africa Campaign	In East Africa, fighting was different. Trenches were not used due to the terrain, so fighting was much more mobile and moved across big distances. There were still dangers – from disease as well as injury. More than 105,000 troops from the British Empire, many of whom were East African (e.g. from Kenya) died in this theatre.

Key terms: **How similar were frontline experiences in World War One?**

Word	Definition	In a sentence
theatre	An area in which military events in a war take place.	One of the theatres of the First World War was the Middle East.
stalemate	When both sides in a battle, war or contest reach a point where they can't get any further and neither side seems to be able to win.	Trench warfare often produced stalemates.
campaign	A series of actions aiming to achieve a particular result.	The Gallipoli Campaign did not achieve its aims.
casualty	Someone wounded or killed during a battle.	There were hundreds of thousands of casualties on the first day of the Battle of the Somme.
bombardment	Continuous attack with bombs.	Brusilov used bombardment to weaken enemy defences.
combatant and **non-combatant**	A combatant is someone with a role in a war that involves fighting; a non-combatant is someone with a role that does not involve fighting.	Many women had non-combatant roles in the First World War.
recruitment	Bringing new people into the armed forces.	There was a big recruitment campaign at the start of WWI.
conscription	When people are forced to join the military.	Conscription was introduced in Britain in 1916.

Knowledge organiser: **Why are different narratives told about Britain's journey to democracy?**

1819 Peterloo	1832 Great Reform Act	1836 BPU first meeting	1839 and 1842 Chartists' petitions to Parliament	1884 Equal size constituencies	1872 Secret voting	1897 NUWSS formed	1903 WSPU formed	1913 Emily Davison's death	1914-1918 First World War	1918 and 1928 Representation of the People Acts

Key people, ideas and developments

1	Political system by 1800	Lots of changes had gradually taken place since the medieval period. For example, there were two Houses of Parliament and a Prime Minister and the monarch had limited powers. However, only the richest men could vote and the towns and cities that grew during the industrial revolution didn't have representation.
2	Peterloo	In 1819, a group of peaceful protesters met in St Peter's Field, Manchester, to hear speeches about changes to Parliament. A local judge panicked and sent in the military. Fifteen protesters were killed. The event became known as 'Peterloo.'
3	1832 Reform Act	Some of the unfairness of the system was removed. For example, more middle-class people could vote and some of the tiniest **constituencies** were removed. New cities got political representatives, too. However, many people – including working-class men and all women – could not vote.
4	BPU	The Birmingham Political Union formed in 1936 to discuss changes to the political system.
5	Chartists	The Chartists formed in 1839 and had several demands. They wanted equal-sized constituencies, elections every year and the vote for all men regardless of wealth. They wrote **petitions** and gained many thousands of signatures, which they presented to Parliament. However, different members had different ideas about protest methods and the group broke up before it achieved any big changes.
6	Other changes	Changes continued to happen gradually, as more people got the vote and some unfairness was removed. For example, voting became secret in 1872.
7	Suffragists	Societies arguing for women to have the vote were formed in the mid-1800s. IN 1897, many of these joined together into the NUWSS or Suffragists. They used peaceful, co-operative methods such as meetings and leaflets.
8	Suffragettes	After the Suffragists' methods were unsuccessful, some women joined a new organisation called the WSPU. They used violence, though the violence was directed against property not people. They damaged government property, organised big protests and chained themselves to railings outside Parliament.
9	First World War	Protests for women's votes stopped during the war. Many women joined the war effort, for example working in factories or as front-line medical staff. This persuaded some people that women could be trusted to have political rights.
10	Representation of the People Acts	In 1918, all men (regardless of wealth or property) got the vote, and women over 30 who were property owners. In 1928, everyone over 21 could vote, regardless of wealth or property. In 1969, the voting age was reduced to 18.
11	Marxist perspective	Marxist historians such as EP Thompson focus on the role of the working classes in this story. He highlights the idea of working class people sharing an identity and coming together for a common purpose. His book *The Making of the English Working Class* was one of the first attempts to take working class history seriously.
12	Feminist perspective	Feminist historians such as June Purvis focus on the role of women in this story. Purvis looks at sources written by suffrage campaigners themselves and argues that Suffragettes' militant methods made an important contribution to raising the profile of the campaign.

Key terms: **Why are different narratives told about Britain's journey to democracy?**

Word	Definition	In a sentence
franchise	The right to vote; the people who have the right to vote	In the early 19th century, the franchise was very limited.
working class	People who have low-paid jobs in factories and mines	The working classes did not have the franchise in the early 19th century.
middle class	People who have professional jobs (e.g. doctor, architect, lawyer) or who own businesses; they might be moderately well-off or even very rich	The middle classes demanded voting rights in the early 19th century.
upper class	People whose wealth and power comes from their family background and land ownership	Upper class people were the ones who traditionally held political power in the medieval and early modern periods.
suffrage	The right to vote (see also – franchise)	Working class people and women campaigned for suffrage.
constituency	A geographical area represented by an MP (in the past, some constituencies had two MPs).	Hillcrest is in the Birmingham Edgbaston constituency, which is currently (2022) represented by Preet Kaur Gill MP
radical	Ideas which argue for a huge change from the current situation	A radical speaker, Henry Hunt, gave a speech at St Peter's Field.
petition	A written request for a change to happen, often signed or supported by many people	The Chartists presented their demands to Parliament in a petition.
campaign	A series of actions with the aim of achieving a goal	Women campaigned for the right to vote.
militant	Involving tactics that use violence or confrontation (direct argument)	The Suffragettes used militant tactics.
feminist history	History writing that focuses on the role of women in history and writing history from the perspective of women.	June Purvis is a feminist historian.
Marxist history	History writing that focuses on the role and perspective of the working classes in history, and the role that economics (the system of money and resources) plays in historical processes.	EP Thompson is a Marxist historian.

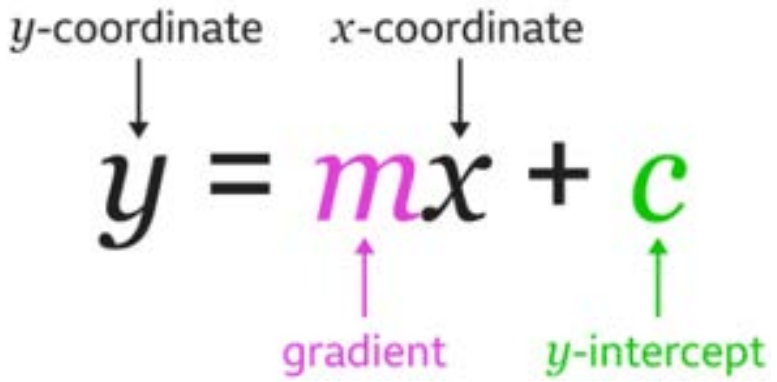
Maths

Year 9 Maths Term 1A – Reasoning with Algebra

Autumn Term Knowledge Organiser

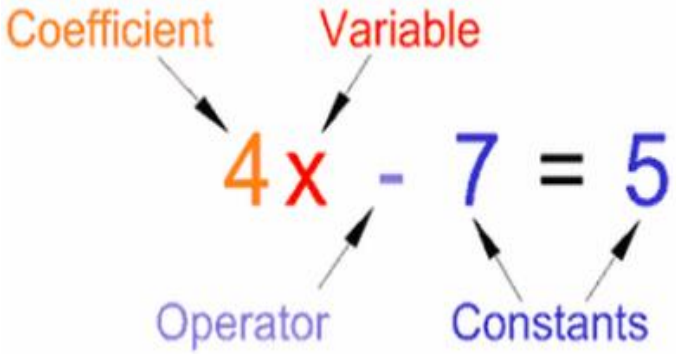
Straight Line Graphs

Gradient: The steepness of a line
Intercept: Where two lines cross. The y-intercept: where the line meets the y-axis.
Parallel: Two lines that never meet with the same gradient.
Co-ordinate: A set of values that show an exact position on a graph.
Linear: Linear graphs (straight line) –linear common difference by addition/ subtraction
Asymptote: A straight line that a graph will never meet.
Reciprocal: A pair of numbers that multiply together to give 1.
Perpendicular: Two lines that meet at a right angle.



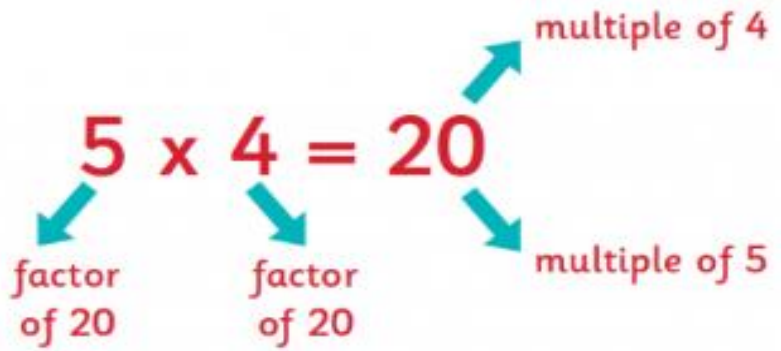
Forming & Solving Equations

Inequality: An inequality compares who values showing if one is greater than, less than or equal to another.
Variable: A quantity that may change within the context of the problem.
Rearrange: Change the order of some algebra to represent it differently.
Inverse operation: The operation that reverses another operation (e.g add and subtract).
Substitute: Replace a variable with a numerical value.
Solve: Find a numerical value(s) that satisfies an equation



Testing Conjectures

Multiples: Found by multiplying any number by positive integers. Known as the "times table"
Factor: Integers that multiply together to get another number.
Prime: An integer with only 2 factors.
HCF: **H**ighest **C**ommon **F**actor (biggest factor two or more numbers share).
LCM: **L**owest **C**ommon **M**ultiple (the first time the times table of two or more numbers match).
Verify: The process of making sure a solution is correct.
Proof: Logical mathematical arguments used to show the truth of a statement.
Binomial: A algebraic expression with two terms
Quadratic: A polynomial where the highest power a term has is 2. (e.g. $x^2 + 4x + 2$)

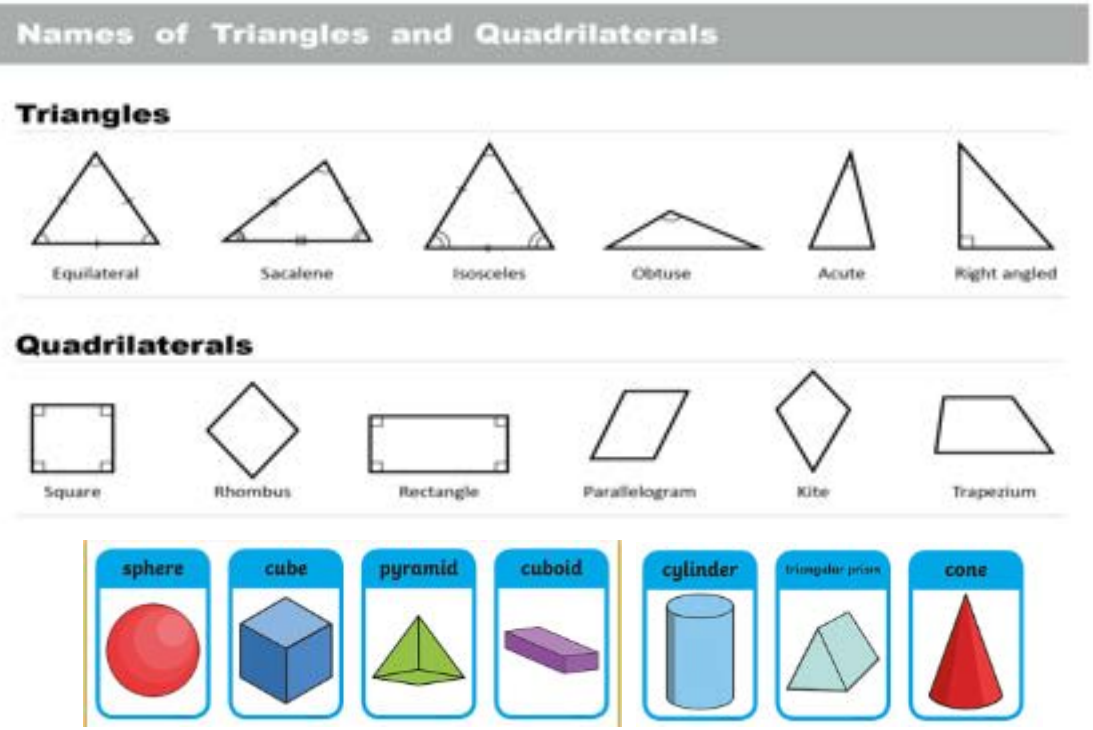


Year 9 Maths Tem 1B – Constructing in the 2D/3D plan

Autumn Term Knowledge Organiser

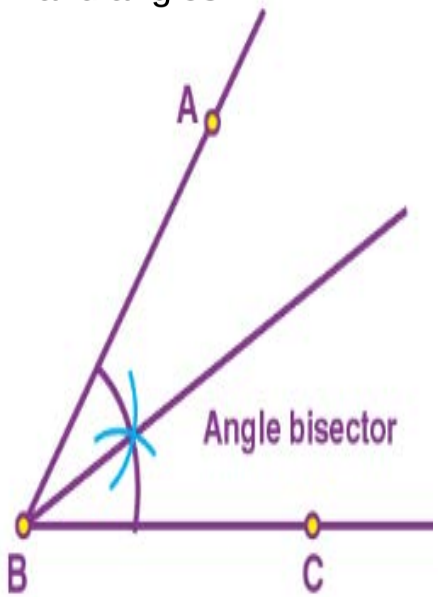
3D shapes

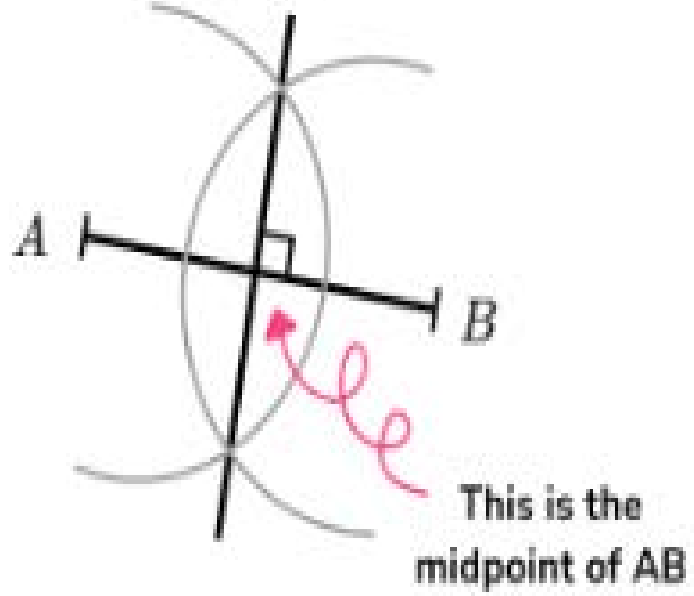
2D: Two dimensions to the shape e.g. length and width
3D: Three dimensions to the shape e.g. length, width and height
Vertex: A point where two or more line segments meet
Edge A line on the boundary joining two vertex
Face: A flat surface on a solid object
Cross-section: A view inside a solid shape made by cutting through it
Plan: A drawing of something when drawn from above (sometimes birds eye view)
Pe at
sur



Construction & Congruency

Protractor: Piece of equipment used to measure and draw angles.
Locus: Set of points with a common property.
Equidistant: The same distance apart.
Discorectangle: (a stadium) A rectangle with semi circles at either end
Perpendicular: Lines that meet at 90°.
Arc: Part of a circle.
Bisector: A line that divides something into two equal parts.
Congruent: Two shapes are congruent if they have identical sides and angles.





MFL
(French)

Year 9 Term 1

Comment tu t'entends avec tes amis?

Je m'entends bien avec *I get on well with* Je **ne** m'entends **pas** bien avec *I do not get on well with* Je me dispute avec *I argue with* On s'amuse *We have fun* On s'excuse *We apologise to each*		**Person/ name**	vu que *seen that* étant donné que *given that* puisque *because* car *because* comme *as*		
Comme personne… *As a person…* Pour moi… *For me…* Je dirais qu**e**… *I would say that…* Je crois qu**e**… *I believe that…* Je pense qu**e**… *I think that…* Je trouve qu**e**…*I find that…* Si c'était possible, je voudrais être plus comme elle/ lui car… *If it was possible, I would like to be more like her/ him because…*	je suis *I am* je ne suis pas *I am not* il/ elle est *he/ she are* iel est *they are* il/ elle a l'air *he/ she seems* iel a l'air *they seem*	certainement *certainly* complètement *completely* généralement *generally* parfaitement *perfectly* malheureusement *unfortunately* entièrement *entirely* particulièrement *particularly* plutôt *rather* sérieusement *seriously* également *equally*	heureux *happy* sérieux *serious* travailleur *hard-working* indépendant *independent* ouvert *open-minded* patient *patient* prudent *cautious* inquiet *worried* étranger *strange* calme *quiet* fidèle *loyal* sévère *strict* agréable *pleasant* contraire *contrary* sympa *nice* sportif *sporty* fou *mad*	heureuse *happy* sérieuse *serious* travailleuse *hard-working* indépendante *independent* ouverte *open-minded* patiente *patient* prudente *cautious* inquiète *worried* étrangère *strange* calme *quiet* fidèle *loyal* sévère *strict* agréable *pleasant* contraire *contrary* sympa *nice* sportive *sporty* folle *mad*	toujours *always* souvent *often* de temps en temps *from time to time* quelquefois *sometimes* Scanne-moi!

Qu'est-ce que tu as fait?

1. Sentence Opener	2. Avoir	3. Past Participle	4. Opinion in the Past		
D'abord **Firstly** Au début In the beginning Après **After** Puis **Then** Ensuite **Next** Finalement/ Pour finir **Finally** À huit heures – **at 8 o'clock** Plus tard – **later** 	**J'ai** I **Il a** He **Elle a** She **Nous avons** We	dansé ensemble **danced together** refusé de manger / payer/ m'écouter **refused to eat/ pay/ listen to me** regardé un DVD **watched a DVD** porté une nouvelle robe **wore a dress** rencontré des amis **met friends** parlé au téléphone **spoke on the telephone** fini **finished**	Personellement Personally Sans doute Without a doubt Honnêtement Honestly **J'ai pensé** que I thought that **J'ai cru** que I believed that J'ai trouvé que I found that **Il m'a semblé** que It seemed to me that	**c'était** It was **ce n'était pas** It wasn't	marrant **fun** génial **great** supéfiant **amazing** marrant **fun** romantique **romantic** sympa **nice** affreux **awful** bizarre **strange** épuisant **exhausting** une perte de temps **a waste of time** un désastre **a**
Ce qui pire est – what is worse Ce qui plus est – what is more	**Je n'ai pas** I didn't **Il n'a pas** He didn't **Elle n'a pas** She didn't **Nous n'avons pas** We didn't	**fait** une promenade **went for a walk** **fait** les magasins **went shopping** **fait** du bowling **went bowling** **dit** « au revoir » **said** « **goodbye** » **pris** des photos **took photos** **bu** du coca **drank coca cola** ri beaucoup laughed a lot	Scanne-moi!	Quelle horreur! – how horrible! Quelle chance!- what luck! Quelle mauvaise chance! – what bad luck!	
Après avoir mangé– After having eaten Après avoir fini– After having finished Après avoir fait cela– After having done that Après avoir + P.P. – After having + -ed					

donc *therefore* **comme** *as* **pourtant** *yet* **néanmoins** *nevertheless* **alors** *so* **puisque** *because* **quand** *when* **où** *where* **qui** *who*

C'était comment, la Tunisie?

1. Sentence Opener	2. Etre	3. Special Past Participle	4. Rest of sentence
D'abord Firstly Au début In the beginning Après After Puis Then Ensuite Next Finalement/ Pour finir Finally À huit heures – at 8 o'clock Plus tard – later	Je suis I (am) Il est He (is) Elle est She (is) Iel est They (are) Nous sommes We (are) Vous êtes You (are) Ils sont They (m.) (are) Elles sont They (f.) (are) Iels sont They (are)	**allé(e)(s)** went **arrivé(e)(s)** arrived **resté(e)(s)** stayed **descendu(e)(s)** went down **parti(e)(s)** left **monté(e)(s)** got on **retourné(e)(s)** returned **rentré(e)(s)** returned **entré(e)(s)** entered **sorti(e)(s)** went out Scanne-moi!	**en avion / faire un tour en bateau** by plane / on a boat tour **à cinq heures / aux ruines romaines** at 5am / at the Roman ruins **dans un hotel de luxe** stayed in a luxury hotel **dans une tente bédouine** in a Bedouin tent **à la plage / à une piscine** went down to the beach / to the pool **faire un tour en quatre-quatre** to go on a tour by 4x4 **le vingt août** the 20th August **sur un chameau** got on a camel **à l'hôtel / à la piscine** to the hotel / to the swimming pool
Ce qui est pire – what is worse Ce qui plus est – what is more Le comble– The straw that broke the camel's back Pendant la rencontre During the date A ma grande surprise – to my great surprise			
Après être allé– After having been Après être rentré– After having returned Après être sorti– After having gone out Après être parti– After having left Après être + SPECIAL P.P.– After having + Special Past Participle			

Quelle horreur! – how horrible!
Quelle chance!- what luck!
Quel cauchemar! - what a nightmare!

Tu viens aussi?

1. Sentence Opener	2. Aller	3. Infinitive	4. Opinion in the Future		
D'abord Firstly Après After Puis Then Ensuite Next Finalement Finally À huit heures – at 8 o'clock Plus tard – later	**Je vais** I am going **Tu vas** You (s.) going **Il va** He is going **Elle va** She is going **Nous aLLons** We are going **vous aLLez** You (all) are going **Ils vont** They are going **Elles vont** They are going **Iels vont** They are going	sortir ce soir to go out tonight aller à la patinoire/ une fête/ un concert to to go to the aller en ville to go into town voir un film to see a film faire les magasins to go (lit. to do) shopping manger au café to eat at the café prendre le bus to take the bus boire un coca to drink a coca retrouver des amis to meet friends faire un pique-nique to have (lit. to do) a pic-nic	A vrai dire As a matter of fact Personellement Personally Sans doute Without a doubt Honnêtement Honestly Je pense que I think that Je crois que I believe that Je trouve que I find that Il me semble que It seems to me that	**ce sera** it will be **ce ne sera pas** it will not be	marrant fun génial great stupéfiant amazing marrant fun romantique romantic sympa nice bizarre strange épuisant exhausting une perte de temps a waste of time un désastre a disaster
après avoir fini after having finished après avoir fait cela- after having done that après y être allée after having been there avant de faire cela before doing that avant d'y aller- before going there avant de +				Scanne-moi!	

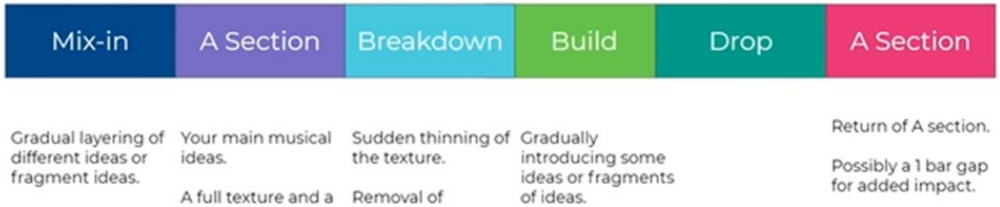
Music

Music Unit 8: EDM

A. Keywords

	EDM	EDM stands for Electronic dance music. This includes subgenres such as Dubstep, House and Techno.
	DAW	A digital audio workstation (DAW) is an electronic device or application software used for recording, editing and producing audio
	MIDI	MIDI is stands for Musical Instrument Digital Interface. It's a way to connect devices that make and control sound — such as synthesizers, samplers, and computers
	Chord progression	A sequence of chords.
	Chord	When two or more notes are played at the same time. The most common chord is made of three notes. This is refereed to as a triad.
	Rhythmic displacement	The repetition of a rhythm but shifted to start on a different beat.
	Beat displacement	The repetition of a rhythm but shifting one beat earlier or later.
	Decibels	The unit in which music producers measure volume.

D. EDM Structure



C. Parts of the drum kit

B. Production

	Sampling	Sampling is where an artist reuses a portion of a recording from another
	Loops	An alternative word for a riff: A short repeating pattern.
	Quantise	Quantisation is the studio-software process of transforming performed musical notes, which may have some imprecision due to expressive performance
	Trimming	A production technique used for shortening a loop.
	Automation	Automation allows the mixing console to remember the audio engineer's adjustment of faders during the post-production editing process.
	White noise filter	A sound effect used in EDM before the drop.
	Panning	Panning is the production technique by which you can adjust which headphones the instrument is playing through.
	Metronome	A click track to ensure all tracks are in time.

Music Unit 7: Film Music

A. The purpose of film music

Film music is a type of descriptive music that represents a mood, story, scene or character through music. It is designed to support the action and emotion of the film on screen.

Film music can be used to:

- Create or enhance a mood (though the elements of music)
- Function as a leitmotif (see C)
- To emphasise a gesture (Mickey-mousing)
- Link one scene to another providing continuity
- Influence the pacing of a scene making it appear faster/ slower
- Give added commercial impetus (released as a soundtrack)
- Illustrate the geographic location (using instruments associated with a particular country) or historical period (using music 'of the time').

B. How are the musical elements used in film?

Pitch and melody	Rising melodies are often used for increasing tension, falling melodies for defeat.
Dynamics	Forte (Loud) dynamics to represent power, Piano Soft) dynamics to represent weakness/calm/resolve. Crescendos used for increasing threat, triumph or proximity. Diminuendos used for things going away into the distance. Sudden dynamic changes to shock the listener.
Harmony	Major –happy, Minor –sad. Concord harmony for "good", discord harmony for "bad"
Texture	Thin/Sparse texture used for bleak or lonely scenes. Thick/Busy texture for active scenes or battles.
Articulation	Legato for flowing or happy scenes, staccato for 'frozen' or 'icy' wintery scenes. Accents (>) for violence or shock.
Rhythm	Long notes often used in Westerns to describe vast open spaces and in Sci-Fi soundtracks to depict outer space. Long notes (drones) in the bass line are often used to create tension and suspense. Short notes often used to depict busy, chaotic or hectic scenes. Ostinato rhythms for repeated sounds e.g. horses.

C . Keywords

Leitmotif	A frequently recurring short melodic or harmonic idea which is associated with a character, event, concept, idea, object or situation which can be used directly or indirectly to remind us of one not actually present on screen. Leitmotifs can be changed through sequencing ,repetition or modulation.
Mickey-mousing	When the music fits precisely with a specific part of the action in a film e.g. cartoons
Diegetic music	Music within the film for both the characters and audience to hear e.g. a car radio, a band in a nightclub or sound effects.
Non-diegetic music	Music which is put "over the top" of the action of a film for the audience's benefit and which the characters within a film can't hear – also known as underscore or incidental music.
Underscore	An underscore is a soundtrack theme that accompanies the action in a performance.
Concord	A chord which sounds pleasant.
Discord	A chord which clashes.

D. Film music composers their soundtracks

Rachel Portman:

Emma, Oliver Twist, Mina Lisa Smile

John Williams:

ET, Harry Potter, Star Wars

Anne Dudley:

Les Miserables

Hans Zimmer:

Lion King, Gladiator, Pirates of the Caribbean

Hildur Guðnadóttir:

Joker, Revenant, Sicario

Physical Education

Knowledge organiser – FOOTBALL year 7, 8 and 9

Key Skills/Techniques

Dribbling

Dribbling allows you to move the ball around the field without losing possession.
Keep the ball close to your feet at all times, when running with it.
Use the inside of your foot to control the ball when moving.
Don't look down when running with the ball. Keep your head up.

Passing

Non-kicking foot is closest to the ball.
Kicking foot needs to be at a right angle to the ball.
Body need to be over the ball.
Eyes focused upon the ball and arms are to be used for balance.

Shooting

Non kicking foot needs to be next to the ball and players needs to keep their body balanced with their head slightly over the ball.
Contact the ball either with the side of the foot (placement of ball) top of the foot (to generate power).
Both legs need to be fixed but when striking the ball, kicking foot needs to be fully extended on the follow-through.
For accuracy, aim to shoot between the goal keeper and the posts

Heading The forehead is used to contact the ball. Eye must be focused on the ball. Meet the ball with your head by moving your feet or jumping to gain the extra height advantage and power. Do not wait for the ball to hit your forehead.

Chest – Used when the ball is played in the air, to bring it down onto the floor. Player needs to align himself with the ball. Roll their shoulders back to generate a greater surface for the ball to contact with. Chest needs to be slightly curved, to cushion the ball. Bend your knees to take the impact of the ball and then allow the ball to roll down your leg to your kicking foot.

Rules/Tactics

Rules

Game is started with a **kickoff** or restarting it after a goal is scored. It is taken at the centre part of the soccer field. During a kickoff, both teams must be on their own halves and only the kicker and the receiver can be inside the centre circle.
The game has 11 players on the pitch, consisting of a goal keeper, defenders, midfielders and strikers. A referee and 2 linesmen, officiate the game. If the ball is played outside of the pitch lines, the possession is given to the opposing team. If it goes out the side of the pitch, a throw in is awarded. If it is kicked behind the A corner kick is awarded **when the whole of the ball passes over the goal line**, either on the ground or in the air, having last touched a player of the defending team. If the attacking team hit the ball behind the goal line a goal kick is awarded.
If a foul is committed a free kick or penalty is issued, depending on the incident.
To score a goal the ball must cross the opposition's goal line.
The team with the most amount of goals at the end of the game will win the game.

Tactics

Vary the passes that you make
Play to your opponents weaknesses (if they are dominantly using their left foot, then play the balls on their right).
Move opponents around he pitch to tire them out.
Vary the pace and direction of passes.

Glossary

Throw in Attack Defend Dribbling Foul
Off side Referee Volley Accuracy Penalty Pass Formation Goal Ball Posts
Free kick Striker Midfielder Header Tackle Passing communication Formation Corner kick

Pictures

Volley – The volley involves striking a ball that is still in the air. Focus eyes upon the ball. Arms out for balance. Keep eyes focused on the ball as you get into the line of flight. Head still. Non kicking foot on the floor and lead with the kicking leg forward.

Turning with the ball

Cruyff - Great skill for losing your opponent.
Named after the brilliant Dutchman Johan Cruyff.
Shape as if to pass or cross but then drag the ball behind your standing leg with the inside of foot. Turn your shoulders and your hips so that you are back in line with the ball and then race away.

Step over – Skill for sending an opponent in the opposite direction.
Lift your foot over the top of ball to use a 'step over' and this should immediately create you time and space. Then hook the ball away with the outside of the foot and race away.

Inside Hook - You need to keep your body between the ball and your opponent.
Reach round the outside of the ball with your foot so that you can change its direction. Bend your knees so that you can transfer your weight quickly and turn your hips to change your own direction. Then get a positive first touch on the ball that puts it into an area that is comfortable for you to move on to and accelerate away from your opponent .

Outside Hook – This tricks your opponent
Use the outside of the foot to hook the ball back in the direction that you are going to go.

Drag Back - The drag back is a great turn to use when you haven't got a lot of space to work.
Place one foot on top of the ball and staying in contact with it throughout, roll it back and move off in the opposite direction.

Team formation

4-4-2 (4 defenders, 4 midfielders and 2 strikers) a traditional team set up

5-4-1 (5 defenders, 4 midfielders and 1 striker) A more defensive set up.

3-5-1-1 (3 defenders, 5 midfielders, and 2 strikers one in front of each other). A more attacking set up.

Counter attacking – The team withdraws players into their own half but ensuring that one or two players are committed to the attack

Direct long ball football – Often used to deride 'boring' teams, the long-ball style of play is genuine route one football. Rather than spending time on the ball picking up the pass, exploiting small gaps in the opposition's defence or utilising the flanks, the long-ball is employed as an opportunistic method of attack.

Wide/Wing plays – The ball is played to the wings. By spreading the ball wide, you allow a different angle of attack and offer a number of opportunities for the winger; take on the fullback and drag central defenders out of position, cut inside and drive forward at an angle, or whip in a cross from deep for the strikers to attack.

Off side - An attacking player is flagged offside by the assistant referee if there is only one defending player between the player and the goal line at the time the ball is struck. The player should be in active play if the offside offense is to be called.

Throw in - A method of restarting play during the game, when the ball has exited the side of the field of play. Throw in is taken from where it went out. At the moment of delivering the ball, the thrower must face the field of play. The thrower must have part of each foot on the touchline or on the ground outside the touchline, and use both hands to deliver the ball from behind and over the head.

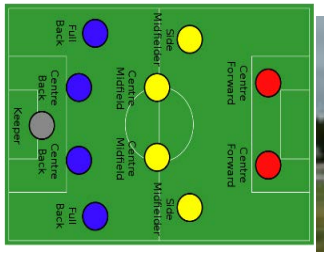
Cruyff Turn

Inside Hook

Step over

Free Kick

4-4-2 example



Throw in

Knowledge organiser – NETBALL year 7, 8 and 9

Skills and Techniques

Footwork: When you receive the ball from another player you will land with your feet using '1, 2' the first foot is your landing foot the second foot is your pivoting foot.

Pivoting: You may move around on a pivot by keeping foot number 1 on the floor, but not lifting it up, your foot number 2 can help you by moving around in a circle.

Chest pass: This is a short and powerful pass, you have your hands in a W shape and push to extend your arms, you also step forward to give more power.

Shoulder pass: This is a long and powerful shot, you start with the ball in your strong hand next to your shoulder, you extend your arm and follow through with your body.

Bounce pass: This is a pass which is low to the ground, you use the same position as a chest pass but aim in ¾ of the way between you and the person you are bouncing too.

Marking: You must be 1m away with your feet from the player, once you have this distance you put both of your arms up over the ball and go onto your tiptoes, when the ball is released you jump to attempt to intercept.

Shooting: You have once hand underneath the ball and the other helping it to balance, you get your aim correct and then bend your knees and release the ball, flicking your wrists

Dodging: When you need to get free from your player you push off one foot and then turn your hips to change direction and run the other way.

Rules

Contact: You can't touch or push any player during the game as it is a non-contact sport, this will result in a **penalty pass** or if they contact you whilst you are in the shooting circle, you will get a penalty shot.
Footwork: If the player moves the landing foot or takes 3 steps with the ball, the other team gets a free pass.
Obstruction: You must be 1 metre away from the player with the ball before your arms go up and over the ball. If your defender is obstructing you before you shoot, you get a penalty shot.
3 Seconds: You can only hold the ball for 3 seconds before you pass or shoot.
Centre Pass: To start a game, and after a goal is scored you go back to the centre pass and players must receive the ball in the centre third.
Repossession: If a players drops the ball or bounces the ball and picks it back up again the other team gets a free pass.
Offside: If you go into a third that you are not allowed in or if any other player than GS GA GK GD go into the shooting circle the other team gets a **free pass**.
The Game:
Netball is played over 4 quarters.

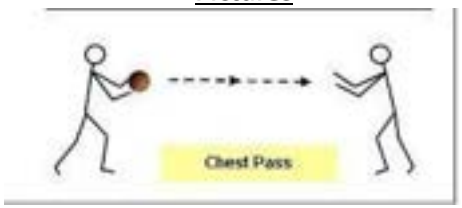
Glossary

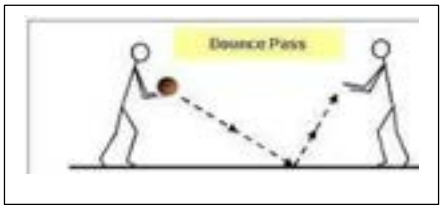
Attack
Defence
Footwork
Pass
Interception
Marking
Dodging
Receive
Obstruction
Contact
Pivoting
Shooting
Repossession
Signal
Space
Rebound
Umpire

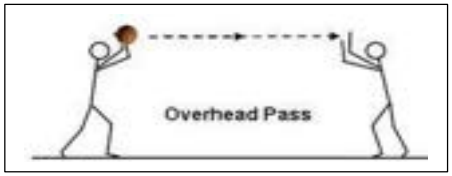
Positions

GS
GA
WA
C
WD
GD
GK

Pictures








Marking the ball


Landing

Tactics

Blocking: This is where you face on and try and block a player. You have to have your hands by your side and if your opponent pushes/runs into you, it would be contact and you get a free pass. This is usually used around the circle. E.G, the defending C will block out the GA, which assists the GD

Dodging tactics: always signal when you want to receive the ball.

Feint Dodge: This is where you trick your player into thinking you are going to run into a certain space by dropping your shoulder but then change your direction and get free for the pass.

Drive/Sprint Dodge: Start on your toes and sprint into a space to receive the ball.

Roll Off: Step to one side to draw the defender, pivot on that foot, make a quick half turn with your back towards the defender and sprint in the opposite direction.

Double feint dodge: Drop your shoulder one way and then the other and then sprint into the space in the opposite direction.

Attacking: Gain the front position on a defender. Move in front of the defender to gain an advantage. Receive the ball on ball side

Defending- 3 steps - mark the player, mark the ball and mark the space Limit available options for the ball carrier.

Umpire decisions:

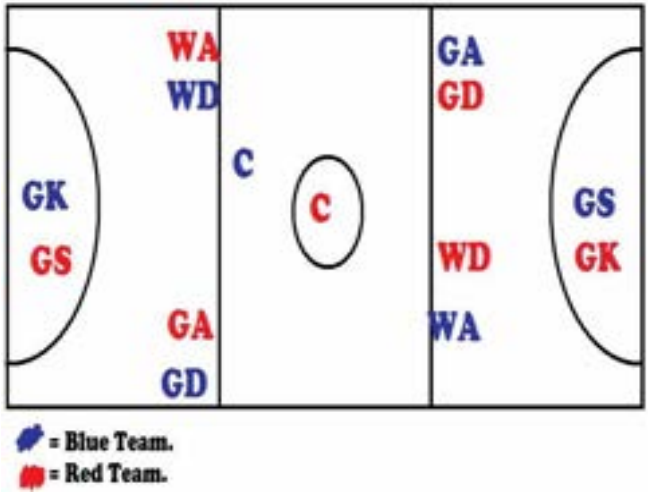
Penalty pass - Awarded to the opposing team for any penalty incurred involving obstruction or contact**.** The offending player must stand to the side of the opposing player and is not allowed to move until the ball has been released.

Free pass - If a player breaks a minor rule such as footwork, offside, the opposition is awarded a free pass, which is a pass taken from the same spot where the rule was broken.

Scoring systems and positions

To score a point the GA or GS must shoot the ball into the net and it must travel all the way through the net. You get 1 point for each goal. They must be wholly inside the goal circle to shoot. If the shooter does not hit the rim of the net/post with the ball and the shooter catches the ball after shooting, this is repossession and the ball goes to the other side.

Goal Shooter (marks GK)	To score goals and to work in and around the circle with the GA. Allowed in the shooting third.
Goal Attack (marks GD)	To feed and work with GS and to score goals. Allowed in the shooting and centre third.
Wing Attack (marks WD)	To feed the circle players giving them shooting opportunities. Allowed in the centre and shooting third but not the circle.
Centre (marks C)	To take the centre pass and to link the defence and the attack. Allowed everywhere except the 2 semi circles.
Wing Defence (marks WD)	To look for interceptions and prevent the WA from feeding the circle. Allowed in the centre and defending third but not the circle
Goal Defence (marks GD)	To win the ball and reduce the effectiveness of the GA. Allowed in the defending third and centre third
Goal Keeper (marks GS)	To work with the GD and to prevent the GA/GS from scoring goals. Defending third only.



Religion and Worldviews

Year 9 Religion and Worldviews Autumn Knowledge Organiser

The Holocaust

A History of anti-Semitism

- The Nazis did not invent hatred of Jews, or anti-Semitism.
- Jews were persecuted in the Middle Ages for religious reasons. In 1190, 150 Jews were massacred in York and all Jews were expelled in 1290.
- In many European countries Jews were blamed for spreading the Black Death and were banned from owning land. In towns they were usually confined to certain areas—ghettos and subject to restrictions. such as curfews.
- Martin Luther—who started the Reformation— called for Jewish synagogues to be destroyed.
- In the 1800s, millions of Jews fled the Russian Empire because of pogroms against them — immigrants often ended up in Britain or the USA.

How did Nazi Germany persecute Jews?

1933	Jews were excluded from the civil service and from schools and universities. Nazi brownshirts organised boycotts of Jewish-owned shops.
1935	Nuremberg Laws were passed. Jews could no longer be citizens and marriage between Jews and Aryans was banned.
1938	9 November: Kristallnacht. Jewish homes, businesses & synagogues were attacked all over Germany. Many Jews were killed and thousands arrested.
1939-41	Millions of Jews living in Poland & USSR came under Nazi control. Many were shot or kept in ghettoes.
1942	Leading Nazis agreed upon a Final Solution to the Jewish problem. Death camps would be used to eradicate Jews from Europe.

Judaism is one of the world's major religions. It is the **world's 10th largest religion**, with about 14.6 million followers. It is around 4,000 years old.

Jews are the people who follow Judaism. Like Christians and Muslims, Jews believe that there is only one God, who created the world and everything in it.

Abraham is seen as the father of the Jewish religion. Jews believe that Judaism began when he started worshipping one God instead of many.

Judaism began in the **Middle East** – but there are now Jewish people all across the world.

The main holy book of Judaism is the **Torah**, written in **Hebrew**. **Synagogues** are Jewish worship buildings.

Key Terms

Anti-Semitism	Hatred of Jewish people
Aryans	Northern Europeans, including Germans, who Hitler believed were the 'Master Race'
Brownshirts	Nazi stormtroopers
Ghettos	Areas of towns/cities reserved for Jews to live in
Kristallnacht	Night of Broken Glass—attacks on Jews & Jewish property that heralded intensification of persecution of Jews in Germany
Synagogues	Jewish places of worship

Year 9 Religion and Worldviews Autumn Knowledge Organiser

The Holocaust

THE HOLOCAUST

The Nazis had been using concentration camps since 1933—often for political opponents, but thousands of Jews were taken to camps like Dachau following Kristallnacht.

Germany's invasions of Poland & Soviet Union meant that there were now millions more Jews under their control. Initially, groups of SS troops Einsatzengruppen, murdered Jews by shooting.

Following the decision to wipe out all Jews taken in 1942 at the Wansee Conference, death camps were built. Here, Jews would be gassed using a chemical called Zyclon-B. This would happen when they thought they were taking showers soon after arrival.

Sometimes, horrifying medical experiments were carried out in camp inmates, for example by Dr Mengele at Auschwitz.

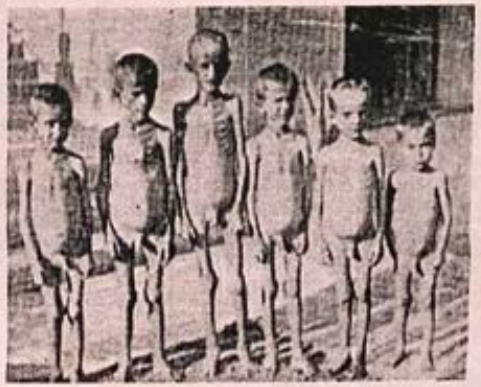
All of the Jews' personal belongings: gold, silver, spectacles, clothes, even hair was kept to be re-used.

Even in work camps, deaths through beatings, lack of food, disease were common.

It is widely accepted that as many as 6 million Jews were murdered during the Holocaust.

Other groups, such as Russian prisoners, homosexuals, communists, gypsies and the mentally and physically disabled were also victims of Nazism.

As the map shows, most camps were in Poland rather than Germany, and Poles made up half of the victims as the diagram shows. Jews from nearly all European countries were victims, however.



Who were the victims of the Nazis' genocide?

Jews – An estimated 6 millions
Soviet prisoners of war – over 3 million
Soviet civilians – 2 million +
Polish civilians – over 1 million
Men, women and children with mental and physical deformities 70,000-170,000
Gypsies – over 200,000
Political prisoners – unknown
Resistance fighters – unknown
Deportees – unknown
Homosexuals – Estimates are 15,000+

Where and how do Jews worship? Why?	 	Synagogues are where Jewish people go to worship. In Orthodox synagogues, men and women sit separately. In progressive synagogues, men and women can sit together and worship. Synagogues have large rooms for prayers, and normally smaller rooms for studying. The front of a synagogue faces towards Jerusalem. There is always a raised platform called a Bimah.
What is the Torah?		The Torah is the Jewish holy book. They are written in Hebrew on rolls of parchment. The scrolls are never touched when they are read from – readers use a pointer called a yad.
Where do most Jews live in the world?		There are around 14.6 million Jews in the world. Two countries – the United States and Israel - have 81% of the world's total Jewish population. Some of the other countries with substantial Jewish populations include France, Canada, Russia, the United Kingdom, Argentina and Germany. There were 17 million Jews in 1939, but this was reduced to 11 million by 1945 due to the Holocaust.
How many different types of Jews are there?		There are many different branches of Judaism. Some Jews still follow all of Judaism's original laws and customs – these are called Orthodox Jews. Jews who do not follow all of these traditions are called Progressive Jews. Progressive Jews are happy to be flexible with certain Jewish laws, in order to fit in with their modern, everyday lives.

Science

Physics 2: Electricity

Section 1: Circuit Symbols

1 switch (open)
2 switch (closed)
3 cell
4 battery
5 diode
6 resistor
7 variable resistor
8 LED
9 lamp
10 fuse
11 voltmeter
12 ammeter
13 thermistor
14 LDR

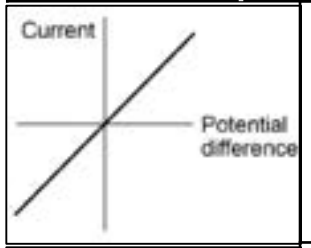
Section 4: V, I and R in Series and Parallel

	Components connected in…	Current	Potential Difference	Resistance
27	Series	The current is the **same** at every point in the circuit and in every component.	The total potential difference of the power supply is **shared** between the components.	The **more resistors, the greater the resistance**. The total resistance of two components is the sum of the resistance of each component. $\mathbf{R_{total} = R_1 + R_2}$
28	Parallel	The **total current** through the whole circuit is the **sum of the currents through the separate components.**	The potential difference across each component is the **same.**	Adding **more resistors in parallel decreases resistance**. The **total resistance** of two resistors is **less than the resistance of the smallest individual resistor**.

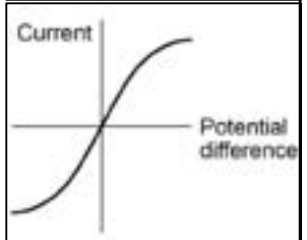
Section 6: The Three Core Cable

32 Live	**Brown** colour. **Current flows** to the appliance. Potential difference between this and other wires should be **230V**.
33 Neutral	**Blue** colour. Current taken away from appliance. Potential difference should be **0V**.
34 Earth	**Yellow** and **green** colour. Potential difference of **0V**. Carries charge to Earth if live wire touches the metal casing of an appliance.

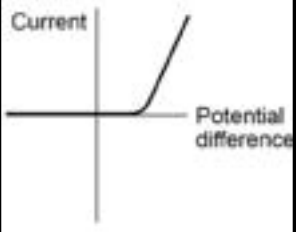
Section 5: IV Graphs



29 Fixed Resistor (Ohmic Conductor)
Current and potential difference are **directly proportional**. **Resistance is constant**.



30 Filament Lamp
Resistance of a filament lamp is **not constant**. As temperature increases, resistance increases. **Ions** within the lamp **vibrate more**, increasing **collisions** with **electrons**.



31 Diode/ LED
The **current** through a diode flows in **one direction only**. The diode has a **very high resistance in the reverse direction**.

Section 2: Equations to learn

	Equation	Symbol equation	Units
15	Charge flow = current x time	Q = I x t	Charge flow - coulomb (C) Current – amperes (A) Time – seconds (s)
16	Potential difference = current x resistance	V = I x R	Potential difference – volts (V) Current – amperes (A) Resistance – ohms (Ω)
17	Power = potential difference x current	P = V x I	Power – watt (W) Potential difference – volts (V) Current – amperes (A)
18	Power = current^2 x resistance	P = I^2 x R	Power – watt (W) Current – amperes (A) Resistance – ohms (Ω)
19	Energy transferred = power x time	E = P x t	Energy = joules (J) Power – watt (W) Time – seconds (s)
20	Energy transferred = charge flow x potential difference	E = Q x V	Energy = joules (J) Charge flow - coulomb (C) Potential difference – volts (V)

Section 3: Key Terms

21 Electric current	The **flow** of **electric charge**.
22 Potential difference	The potential difference between two points in an electric circuit is the **work done when a coulomb of charge passes between the points.** Potential difference **causes charge to flow**
23 Resistance	Resistance is caused by anything that **opposes the flow of electric charge.**
24 Charge	Anything charged that is able to move within a circuit. **Electrons** or **ions**.
25 Series	A circuit with only **one route** for charge to take.
26 Parallel	A circuit with only **more than one route** for charge to take.

Section 7: Mains Electricity

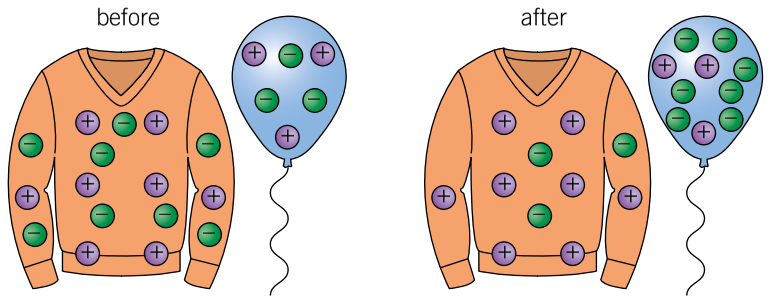
35 Alternating Current	The **current** regularly **changes direction e.g. mains electricity**
36 Direct Current	The **current** flows in **one direction only e.g. batteries.**
37 Mains Electricity	UK mains is an **alternating current** of **230V** and at a frequency of **50Hz**.
38 National Grid	A series of **cables** and **transformers** linking power stations to consumers.
39 Step-up Transformer	**Increases the potential difference** for **transmission** across power cables. This **reduces the current** and **therefore less heat is lost** from the cables. This makes the National Grid **efficient**.
40 Step-down Transformer	**Reduces the potential difference** from the cables to **230V** for use by consumers.

P2 Chapter 1: Electricity and magnetism
Knowledge organiser

Activate
Question • Progress • Succeed

Charging up

Static electricity: by rubbing **insulators** together **electrons** are transferred, which gives the objects magnetic charges.



Like charges **repel**, and opposite charges **attract**.

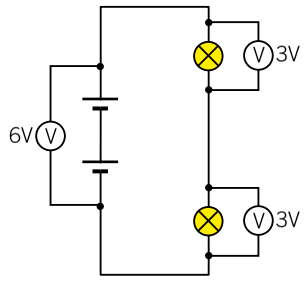
Charged objects have **electric fields** around them.
These lines show how a positive charge will act.

Series and parallel circuits

In a series circuit all of the components are connected in one loop. If one component or wire breaks, **current** stops flowing everywhere.

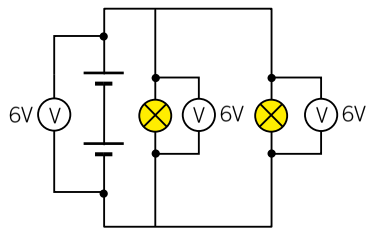
Series circuits

- contain only one loop
- the current is the same everywhere
- the **potential difference** across each component adds up to the potential difference across the battery



Parallel circuits

- contain multiple branches
- currents in all the branches add up to make the total current
- the potential difference across each component is the same as the potential difference across the battery



Resistance

The **resistance** is a measure of how easy it is to pass through a component.

conductors – low resistance

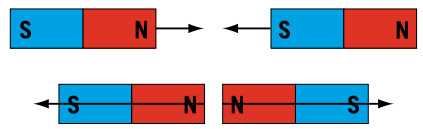
insulators – high resistance

Resistance is calculated by measuring the potential difference and the current.

The unit for resistance is the **ohm (Ω)**.

Magnets

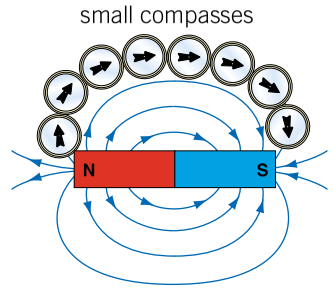
- **Magnets** have north and south poles.
- Opposite poles attract, and the same poles repel:



Magnetic fields

- A magnet has a field around it.
- You can see the field around a bar magnet with a small compass or iron filings.
- If the lines are close together the field is stronger.

small compasses



- The Earth has a magnetic field, which acts like a big bar magnet, with the south pole at the top of the planet.

Circuits and currents

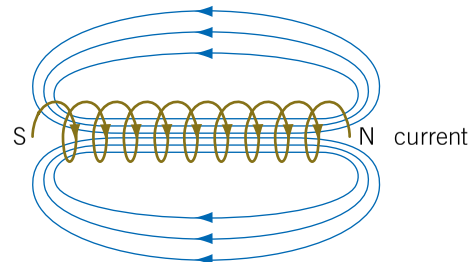
- Current is the amount of charge flowing per second.
- It is measured with an **ammeter** (connected in series).
- The unit for current is the **amp (A)**.

Electromagnets

- **Electromagnets** are only magnetic when they have a flow of current, so they can be turned off.
- They are made by running a current through a coil of wire.
- They usually have an iron core in the middle of the coil, which makes them stronger.

You can make an electromagnet stronger by:

- adding more turns of wire on the coil
- using more current.



Uses of electromagnets

- moving cars or other metal objects
- sorting iron and steel from aluminium
- making motors and speakers
- making levitating trains, which travel much faster as there is no friction

How motors work

Applying a current to a coil of wire makes it electromagnetic.

↓

This causes a force between the coil of wire and the permanent magnet nearby, driving a motor.

Potential difference

- Potential difference is the amount of energy transferred by the charges in the circuit.
- It is measured with a **voltmeter** (connected in parallel). The unit is the **volt (V)**.

Key terms Make sure you can write definitions for these key terms.

ammeter attract conductor current electron electric field electromagnet insulator repel magnet magnetic field line motor north pole ohm parallel potential difference resistance series static electricity south pole volt voltmeter

P2 Chapter 3: Motion and pressure
Knowledge organiser

Activate
Question • Progress • Succeed

Speed

Speed is how far something moves in a certain time.

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

- Speed is measured in **metres per second (m/s)**.
- Convert distances to metres and times to seconds to get the answer.

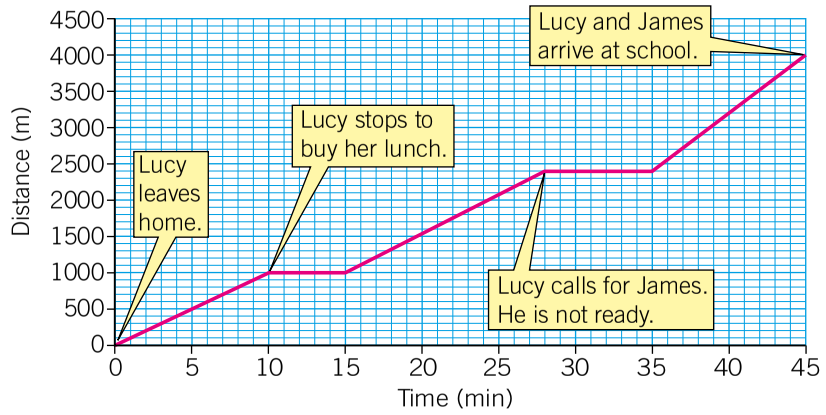
Relative motion

- Compares how fast one object is moving to another.
- If two objects are moving at the same speed in the same direction then their relative speed is zero.

Motion graphs

Distance-time graph

These graphs show the distance something travels over a certain time.



To calculate the average speed from a distance–time graph you find the distance covered, and divide it by the time taken.

Pressure in solids

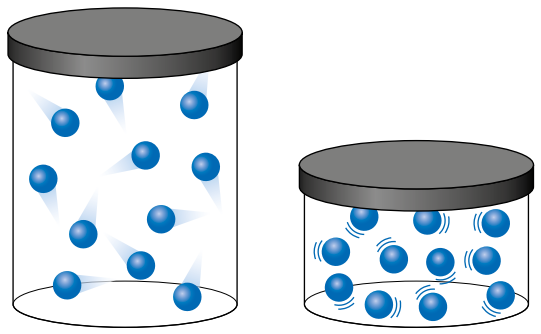
- Pressure is the force exerted on a surface because of weight, and is measured in **newtons per metre squared**.
- For small areas you can use centimetres instead.
- Pressure explains why studded boots help you grip grass, or why snowshoes help you walk in snow.

$$\text{pressure (N/m}^2\text{)} = \frac{\text{force (N)}}{\text{area (m}^2\text{)}}$$

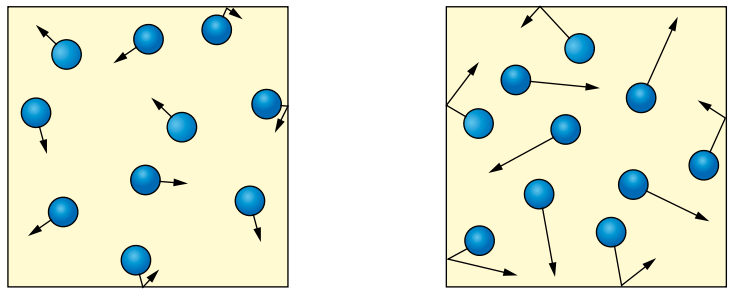
Pressure in gases

Collisions between gas molecules and their container produce **gas pressure**.

If you **compress** (squash) a gas into a smaller volume there will be more collisions, and so a higher pressure.



If you heat a gas, the particles will have more energy. This means they will move more quickly and collide with the container more often, so the pressure will be greater.

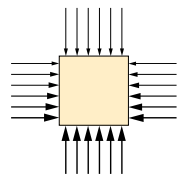


Atmospheric pressure is the pressure acting on us from the air around us.

- The higher above sea level the lower the atmosphere pressure.
- This is because the air is less dense the higher you go above sea level, so there are fewer collisions between air particles.

Pressure in liquids

- Solids and liquids are **incompressible**, because all the particles are touching already. This means they pass pressure on.
- The pressure at the bottom of a liquid is bigger than the top, because of the weight of the water liquid pushing down pressure increases with depth.



Objects float because of **upthrust**. Liquid pressure produces this upthrust. In the example, the object floats because the upthrust acting on the bottom of it is stronger than the forces acting on the top.

Turning forces

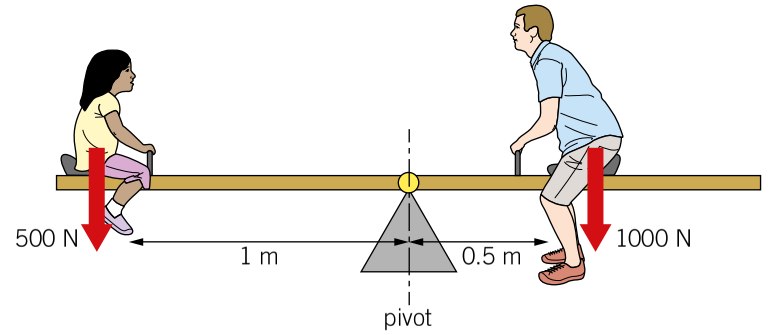
- **Moments** are the turning effect of a force.
- The unit for the moment is **newton metres (Nm)**.

$$\text{moment (Nm)} = \text{force (N)} \times \text{perpendicular distance from the pivot (m)}$$

- To calculate the moment you multiply the force applied by the distance from the **pivot**.
- The bigger the force, or the further the distance, the bigger the moment.

The law of moments

During **equilibrium**, all the clockwise moments added together must equal all of the anticlockwise moments added together.



clockwise moment = force × distance on the right
= 1000 N × 0.5 m
= 500 Nm

anticlockwise moment = force × distance on the left
= 500 N × 1 m
= 500 Nm

The moments in the example above are the same. This is how see-saws balance.

Key terms Make sure you can write definitions for these key terms.

atmospheric pressure *compress* *distance–time graph* *gas pressure* *incompressible* *law of moments* *liquid pressure* *moment* *motion* *newton metres* *newtons per metre square* *pressure* *relative pivot* *speed*

Biology 4: Bioenergetics

Section 1: Photosynthesis Equation

1 Carbon dioxide + water $\xrightarrow{\text{light}}$ glucose + oxygen

2 $6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$

Section 2: Key terms

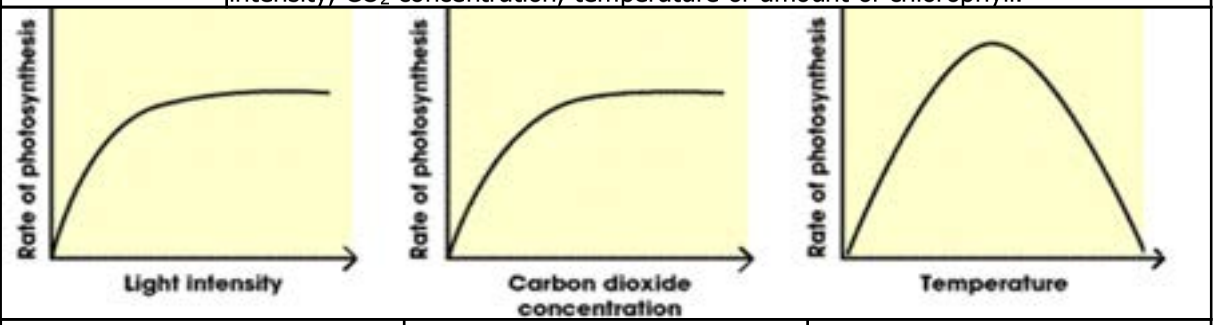
3 Chloroplast	The plant **organelle** where **photosynthesis** takes place.
4 Chlorophyll	The **green pigment** that **absorbs energy from light**.
5 Endothermic	Photosynthesis **takes energy** in (in the form of **light**). It is an endothermic reaction.
6 Diffusion	**The spreading out of particles by random motion from where they are in high concentration to a low concentration. Occurs in gases and liquids.**

Section 3: Uses of Glucose

7 Used in **respiration** to provide **energy**.
8 Converted into **starch** for **storage**.
9 Converted into **fats** and **oils** for **storage**.
10 Produce **cellulose** to **strengthen** the **cell wall**.
11 Produce **amino acids** to **make proteins** (also needs nitrate ions from the soil)

Section 4: Limiting Factors

12 Limiting Factor	The factor that stops the rate of photosynthesis from increasing; could be light intensity, CO_2 concentration, temperature or amount of chlorophyll.



13 Light Intensity
Initially light is the limiting factor. When the graph plateaus something else (e.g. CO_2 concentration, temperature) is limiting the rate.

14 CO_2 concentration
Initially CO_2 concentration is the limiting factor. When the graph plateaus something else (e.g. light intensity, temperature) is limiting the rate.

15 Temperature
As temperature increases, the rate of photosynthesis increases. Above the optimum there is a decrease in photosynthesis. Enzymes needed for photosynthesis become denatured.

Section 5: Respiration

16 Energy	Energy in organisms is needed for **chemical reactions to build larger molecules**, **movement** and **keeping warm**.
17 Aerobic Respiration	Aerobic respiration **provides energy**. It requires **oxygen**. It is an **exothermic** reaction (produces heat). In **mitochondria**. **Glucose + oxygen → carbon dioxide + water** **$C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$**
18 Anaerobic Respiration (muscles)	**No oxygen** needed. Provides **less energy** than aerobic respiration as glucose **not fully oxidised**. Occurs during **intensive exercise**. In **cytoplasm**. **Glucose → lactic acid**
19 Lactic Acid	Produced in **anaerobic respiration in muscles**. **Build up** of lactic acid **causes fatigue**. Lactic acid must be **taken to the liver by the blood so** that it can be **oxidised back to glucose**.
20 Oxygen Debt	The **amount of extra oxygen** the body needs **after exercise** to **react with the lactic acid** and remove it.
21 Anaerobic Respiration (plant and yeast cells)	**No oxygen** needed. In yeast cells it is called **fermentation** – economically important for manufacture of **bread** and **alcoholic drinks**. In **cytoplasm**. **Glucose → ethanol + carbon dioxide**

Section 5: Response to Exercise

22 Increase in breathing rate	Increases rate at which **oxygen** is taken into the lungs.
23 Increase in heart rate	Oxygenated blood is pumped around the body at a faster rate. Carbon dioxide is removed at a faster rate.
24 Increase in breath volume	A **greater volume** of oxygen is taken in with each breath.

Section 6a: Metabolism

25 Metabolism	The **sum of all the reactions** in a **cell** or **body**. Some of these reactions **require the energy released from respiration**.

Section 6b: Metabolic Reactions

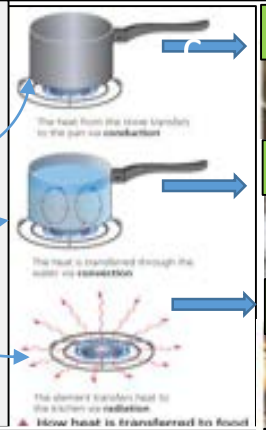
26 Conversion of glucose to starch, cellulose or glycogen.
27 Formation of lipids from glycerol and fatty acids
28 Use of glucose and nitrates to make amino acids (plants only)
29 Respiration
30 Breakdown of proteins to urea

Food Preparation and Nutrition

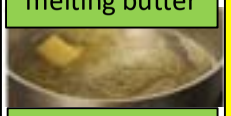
Year 9 – Is 'food' a science?

How is food cooked?
Heat is transferred to food by

Conduction
Convection
Radiation



melting butter



poaching

grilling

Cooking Methods

Cooking with dry heat

Baking	Cooked in the dry heat of the oven
Grilling	Cooked by the radiant heat of a hot grill. Direct heat.

Dry heat

Cooking with fat

Stir Fry	Cooked quickly over intense heat in a wok with little oil
Shallow Frying	Cooked in a shallow pan with hot fat
Deep Frying	Cooked submerged in very hot oil
Roasting	Cooked in the dry heat of the oven and basted with hot fat

With fat

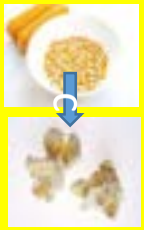
Cooking with water

Boiling	Cooked quickly in boiling water – 100C
Poaching	Cooked in gentle simmering water – below boiling point

With water

In Practice

Investigating popcorn
Which method of heat transfer produces the best popcorn?
Justify your choice.



Research Task:

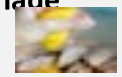
How does COOKING affect the sensory and nutritional properties of food?

Functional and chemical properties of food

Denature-protein changes shape.
Amino acid chains unfold by:

- Heat eg fried egg
- Acid eg lemon juice in a marinade tenderises chicken
- Mechanical action eg when Egg whites are whisked the protein stretches into strands and air is trapped.

A **gas-in-liquid foam** is formed when the Liquid egg forms a film around each air bubble



Coagulation happens when the protein in the food sets during the cooking process.

- The heat of an electric whisks sets egg white

- The heat of an oven sets eggs

Self Assessment

- Give an example of solid and liquid fats.
- How does rubbing the fat into the flour help to prevent pastry from being tough?
- How does aeration help to keep cake mixtures light and springy?

Functional property-the role of ingredients in a mixture

Caramelisation
When sugar is heated, it changes colour and flavour.
Sugar turns from white/clear to dark amber.
An attractive flavour and golden colour develop.
eg caramel, crème caramel, caramelised onions
Overheating produces a bitter taste and a burnt appearance.

Shortening-when fats give biscuits and pastry a crumbly texture. The best fats to use are butter, lard, white vegetable fat (eg Trex) and baking margarine.

- When fat is rubbed into the flour using fingertips, this surrounds the flour particles with a waterproof coating.
- This stops water becoming absorbed into the flour and prevents biscuits and pastry becoming tough.

Aeration-is when air is trapped in a mixture to make it lighter and give it a spring texture.

- Fat and sugar are creamed together.
- Bubbles of air are created and a stable foam is formed ; the air stays trapped in the creamed mixture until it is cooked.

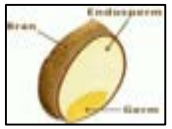
- Why is vinegar sometimes added to the cooking water when poaching eggs?
- Explain why an egg white can be set but the yolk is still runny?

- In your own words and without looking at the KO describe the process of caramelisation.

Do not forget cooking by microwave, raising agents, gelatinisation of starch in sauces and emulsification in mayonnaise are ..... 'scientific processes'.

Year 9 – How is flour turned into pasta?

The best flour used to make pasta is called **durum wheat flour.** It is sometimes called dopio zero (double zero) flour. Strong flour can also be used. It makes a stretchy dough and holds its shape during cooking due to the high gluten content.


Flour is produced through the milling process. Wheat, a cereal grain is ground down to make flour. This is an example of **primary processing**.
The type of flour depends on how much of the wheat grain is found in the flour. This is called the **extraction rate.** The higher the extraction rate the more **fibre** is found in the flour eg 100% gives wholemeal flour and 70% gives white flour.
White flour is **fortified** with calcium, iron and B-vitamins because they are removed when the flour is processed

Primary processing means changing the raw food material into food that can be either eaten immediately or processed into other types of food.
Gluten is a protein which is formed when water is added to the flour and mixed.
Fortified -vitamins and minerals are added to foods to improve the nutritional value eg calcium is added to flour.

How is pasta dough made? Watch this video clip – www.youtube.com/watch?v=dSyYir5Sc8A

A basic pasta dough is made from flour, salt, eggs, oil and water.

200g 00 flour/Strong plain flour
Half a teaspoon salt
1 tablespoon oil
2 eggs
1 to 2 tablespoons water

1. Place the flour and salt on the worktop and mix in the rest of the ingredients using your hands.
2. Knead the dough until it is smooth (about 5 minutes).
3. Roll the dough using a pasta machine, and cut into the desired shape. If a pasta machine is not available, roll the pasta on a well-floured surface to a thickness of about 0.5mm.
4. Cook the pasta shapes in a pan half full of boiling water with half a teaspoon of salt added for 3 to 5 minutes or until it is *al dente* (firm to bite).
5. Drain and add some grated cheese, tomato sauce and black pepper if you wish, and taste.

A pasta machine is usually used to make different types of pasta.


There are many different shapes and varieties of dried pasta for example farfalle – bow ties, penne – tubes, fusilli - twists

Dried pasta has a firm, solid texture. Served with chunky vegetable and meat sauces eg Bolognese sauce.

Fresh pasta has a softer texture and will absorb the flavours of the sauce it is served with eg carbonara


Self Assessment

- Why is bread dough made with strong plain flour?
- Why is pasta made with dopio zero flour?
- Describe the difference between dried and fresh pasta and give examples of dishes they could be used for.

In Practice

- Make a dish using pasta such as carbonara, lasagne or
- Make some pasta dough, create some shapes, cook them and add to a reduction tomato sauce.

Extension

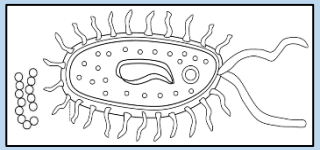
Investigate bread making. You made bread dough in Year 8 why not try and make some at home. You could make some garlic bread to serve with the pasta dish. Enjoy!

Year 9 - Where do bacteria come from?

Food poisoning is caused by eating food contaminated with harmful bacteria. This causes symptoms such as nausea, vomiting, diarrhoea and stomach pain. Food poisoning usually lasts a short time and the symptoms are mild. For some people, the symptoms are very serious and can even cause death.

What are bacteria?

Bacteria: microscopic living organisms, which are single-celled and can be found everywhere



- *Food poisoning:* an illness caused by eating food contaminated with harmful bacteria
- Pests: insects or animals which may contaminate food.
- *High-risk foods:* ready-to-eat moist foods, usually high in protein
- *Temperature Danger Zone:* temperatures between 5◦C and 63◦C where most bacteria can multiply

Bacteria come from:

Raw Foods

- Raw meat, poultry and their juices.

- Eggs and shellfish carry bacteria on their shells, both inside and outside.

- Soil on foods such as uncooked rice and root vegetables.

Work Surfaces and equipment

- Dirty tea towels and dish cloths.
- Dirty equipment.
- Using the same chopping board for raw and cooked food.
- Colour coding of equipment helps to prevent cross-contamination

Food Handlers

- Handwashing is very important to prevent unclean hands spreading bacteria on to food.

- Double-dipping when tasting food passes bacteria from your mouth into the food.

- Licking fingers, touching the face and hair, and picking the nose may all contaminate food, dishes and equipment.

Pests

This is more likely to happen when:

- food is left uncovered
- bins are overflowing
- areas and equipment are not cleaned properly.

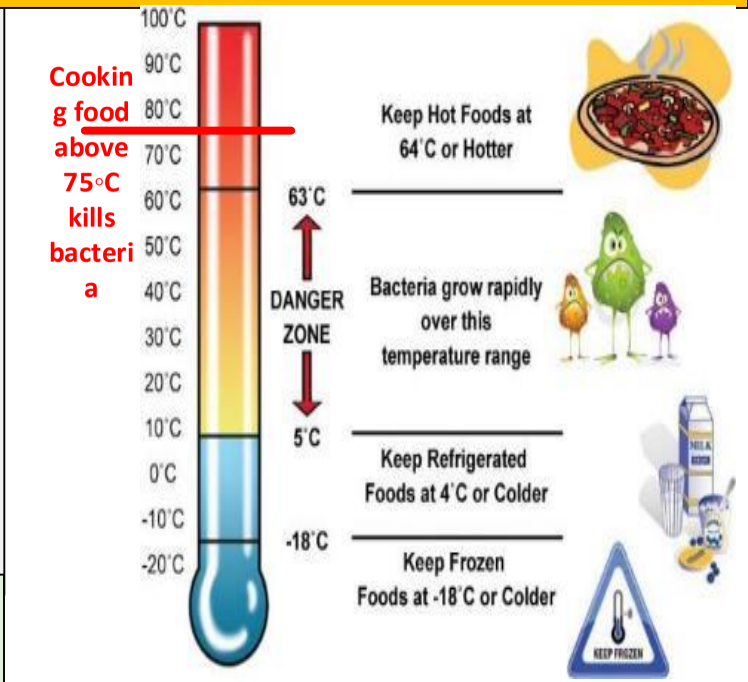
Bacteria grow best in the danger zone which is between 5◦C and 63◦C

Below 5◦C they are dormant, this means that grow very slowly or not at all

Above 63◦C they are mainly destroyed by the heat

Waste food and rubbish

- Bins with no lids attract pests.
- Thin bin bags can split and contaminate areas.
- Rubbish sometimes overflows.
- Dirty bins allow bacteria to multiply



Self Assessment

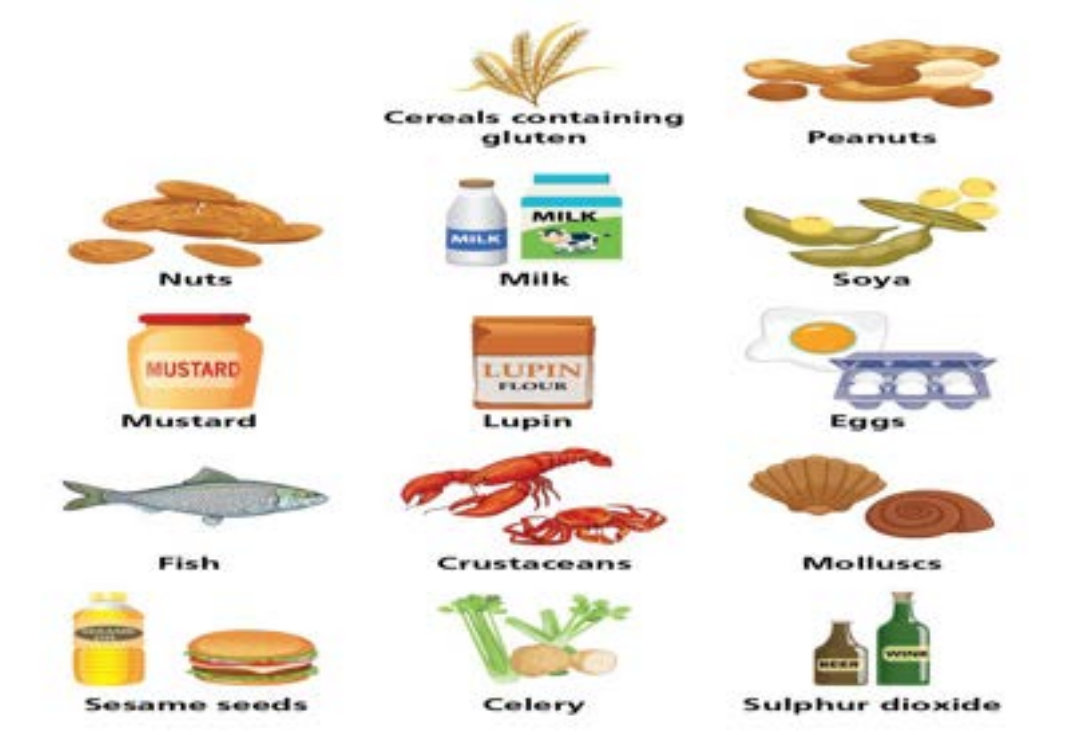
- What are the 5 main sources of bacteria which can contaminate food?
- State 3 way you could prevent bacteria from raw food contaminating ready-to-at food?
- Why are colour-coded chopping boards useful when preparing foods?
- Name 3 symptoms of food poisoning.

Research:

Find out the names of different food poisoning bacteria. Write them out several times so you learn to spell them.
Check out bacteria
www.bbc.com/bitesize/clips/zqt87ty

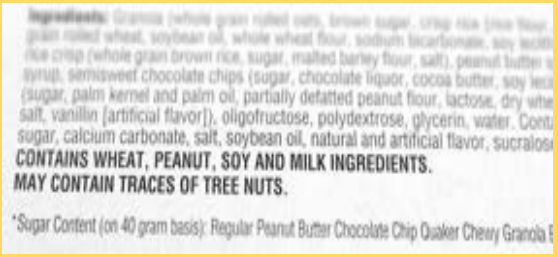
Allergens Extension Tasks

An allergen is a substance or food that may cause an allergic reaction. Some food allergies are mild, but others can be very serious if the correct treatment is not quickly given.



In the worst cases of food allergies, some people suffer severe reactions that can stop them breathing. They have to have an injection of adrenaline from an Epipen to help them recover.

Allergen information must be highlighted in bold in the main ingredients list on the back of a food packet.


CONTAINS WHEAT, PEANUT, SOY AND MILK INGREDIENTS.
MAY CONTAIN TRACES OF TREE NUTS.

Food intolerances are much more common than food allergies. The symptoms of an intolerance are noticed after the food has been eaten and include bloating and stomach pain.

Lactose intolerance is one of the most common types of intolerance of foods. People with lactose intolerance are not able to digest lactose, the sugar in milk and other dairy products.

About one in a hundred people suffer from an intolerance to gluten known as coeliac disease. Gluten is the protein found in wheat flour and other cereals such as rye, oats and barley. People with coeliac disease react to gluten when it is eaten; their body attacks the healthy tissue in their body by mistake. The symptoms of this are often diarrhoea, bloating and weight loss.

Self Assessment

- What is an allergen?
- What can happen to someone who accidentally eats something they are allergic to, such as nuts?
- Name 5 ingredients which are allergens
- What is coeliac disease?

In practice

- Make a dish which you Have adapted so that is suitable for a coeliac or someone who is lactose intolerant eg a pizza with a gluten free base or a pasta bake using lactose-free milk and cheese.

Self - testing

Review your knowledge of Food safety

Food Safety & Science Extension Tasks

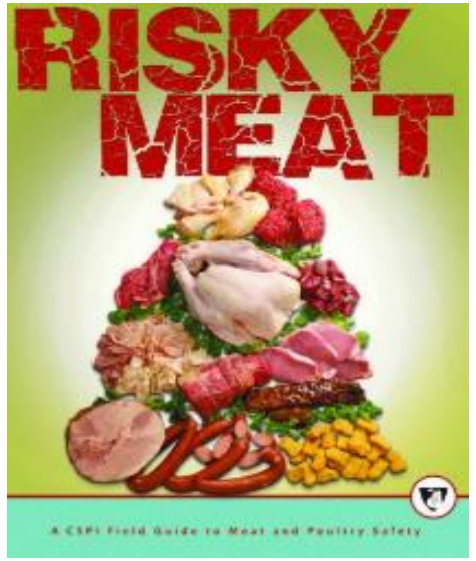
Temperature Probe

Cooked food needs to reach 75°C.

HIGH RISK FOOD CAUSES most food poisoning cases

High Risk Foods

High Risk Foods have a short shelf life. You can't keep them for long, or the bacteria might multiply to dangerous levels and cause food poisoning.



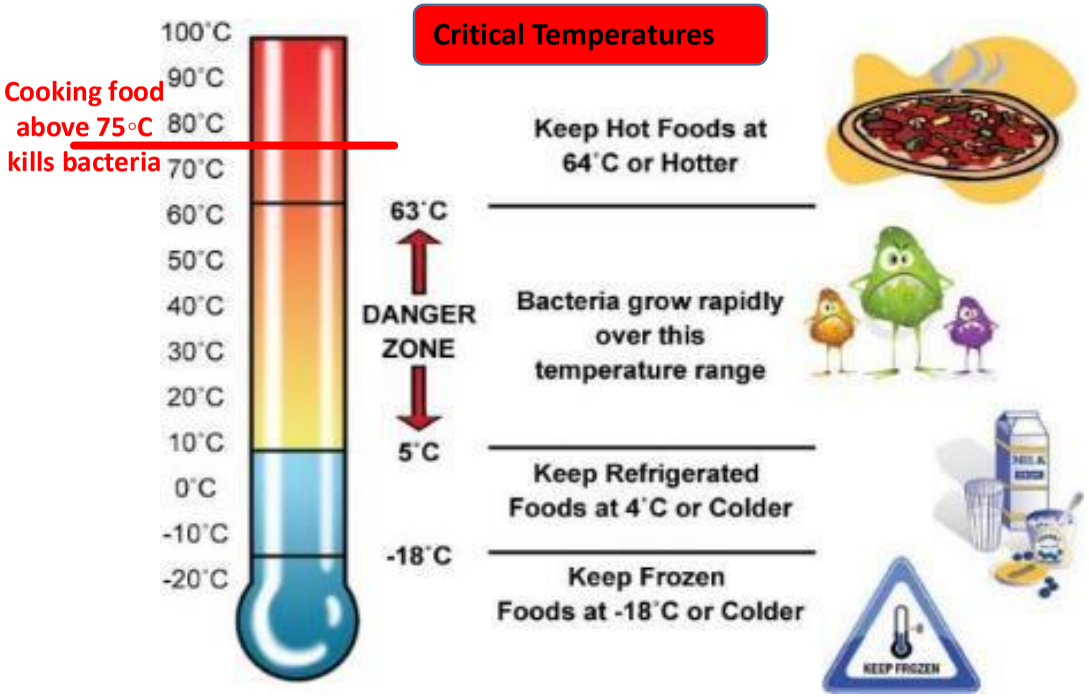
High Risk Foods

Meat
Poultry
Fish
Seafood
Shellfish

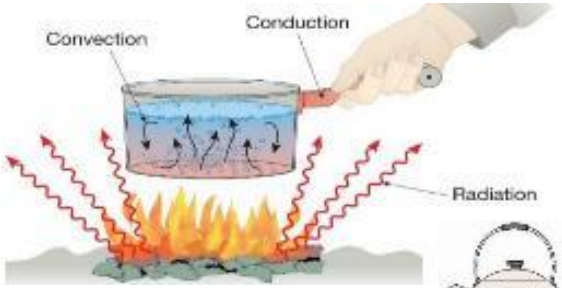
Cooked Rice

Eggs
Dairy Foods
Gravies
Sauces
Stocks

Critical Temperatures



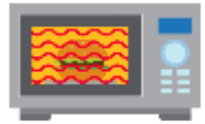
Heat In Cooking



Convection - when heat travels through air or water. E.g. in an oven or a pan of boiling water.

Conduction - when heat travels by direct contact through solid materials such as food or metal.

Radiation - when heat rays travel towards food, e.g. grilling, toasting, microwaving



Self – Assessment

How did you get on with your self quizzing?

Self - testing

Review your knowledge of Food safety

Food Safety & Science Extension Tasks

4 C's

Food hygiene is necessary in order to make food which is safe to eat. This involves more than just being clean. A simple way to remember all the important areas where safety could be an issue are the **4Cs**:

- **Cooking**
- **Cleaning**
- **Chilling**
- **Cross Contamination**

Keyword	Meaning
Ambient Foods	Foods that can be safely stored at room temperature.
Aeration	Adding air to a mixture to help it rise (e.g. cakes, batters, yorkshire puddings).
Bacteria	A micro-organism that grows on food. Some of these are harmless but pathogenic bacteria can cause food poisoning.
Coagulation	When heat is applied to a liquid protein food making it become solid. E.g. Egg.
Cross Contamination	When bacteria passes from one food to another or from people to food. Can lead to food poisoning.
Food Spoilage	When bacteria causes food to decay. Food will start to smell, lose texture or flavour.
Food Poisoning	Caused by eating food infected with bacteria. Symptoms include sickness, fever and diarrhoea.
High Risk Foods	Foods where bacteria grows quickly and can lead to food poisoning. The majority of high risk foods are animal protein foods (meat, fish, dairy, meat stocks/gravies). The only exception is cooked rice.
Mould	A type of micro-organism. Grows on foods such as berries when they are starting to decay. Also used in food production to make foods such as blue cheese or soy sauce.

Food Packaging Date Marks

Date Mark	Description	Food Examples
Use By 	A safety date. Used on high risk foods that usually need to be stored in the fridge. If you eat the food after this date you risk food poisoning.	Meat Fish Seafood Cheese Milk Cream 
Best Before 	A quality date. Food can still be eaten after but the quality will be reduced. E.g. cereals or biscuits will not be as crunchy.	Bread Cereals Sugar Flour Pasta 

Raising Agents

Biological – Yeast, used in bread making.

Mechanical – folding, beating, whisking, sieving, creaming, rubbing in.

Chemical - Bicarbonate of soda, baking powder, S.R.flour.

Steam – Used in choux pastry, Yorkshire puddings, soufflés.

Self – Assessment

How did you get on with your self quizzing?

Year 9 - Food Preparation

Self Assessment
What is the meaning of the following words?

- BMR (Basal Metabolic Rate)
- PAL (Physical Activity Level)
- DRV's (Dietary Reference Values)
- Life stage
- Dietary needs
- Obesity
- Seasonal
- Glut
- Preservation
- Cuisine
- Staple foods
- Conduction
- Convection
- Radiation
- Denature
- Coagulation
- Shortening
- Aeration
- Stable foam
- Caramelisation
- Primary processing
- Extraction rate
- Fibre
- Fortified
- Gluten
- Bacteria
- Food poisoning
- Pests
- High risk food
- Danger zone

Check your KO's and learning tasks.

Use the 4C's:

Practical techniques and processes leading to Independent practice

A food probe is used for temperature control.

Electric whisk used to mechanically aerate mixtures

Sugar thermometer Is used for testing the temperature of heated

Using colour-coded equipment o prevent cross contamination

Popcorn maker

Using Chefs/Cooks Knife -

Using a wok

Using a microwave

Using a pasta maker

Chapatti pan

Know your equipment:

Skill/Process	Example	✓	R2 Independent practice	Example	✓
Investigation:	Popcorn		**A savoury food product to meet dietary needs of teenager**	Shepherds Pie Pasta Bake	
Shortening/coagulation:	**Shortcrust pastry tartlets**		**A sweet food product to meet dietary needs of teenager**	Brownies Trifle	
Layered pastry (rolling and folding);	**Pasties/Twists**		**Preserving seasonal fruit**	Jam	
Aeration (and use of raising gent):	Victoria Sandwich cake		**British Cuisine**	Fish Pie Toad in the hole	
Caramelisatiion: honeycomb (demonstration)	**Honeycomb**		**International cuisine**	Chicken Tikka Chillie con carne	
Denaturation/coagulation: (demonstration)	Meringue				
Aeration:	**Viennese Fingers**				
Investigation:	**Making pasta**				

Year 9 - What is seasonal food?

Some food are seasonal. This means they are only available at certain times of the year.

Advantages to choosing seasonal foods:

- They are more likely to be local or grown in the UK.
- The food miles will be low.
- They support local farms.
- They have more nutrients as they are fresher.
- They are plentiful, which makes them cheaper.
- Gluts of seasonal fruit can be used to make chutneys, pickles or jam.

A glut is an excess or oversupply (eg of apples in the Autumn)
Preserve is a process which allows food eg fruit to last longer eg freezing, pickling, drying, jamming, canning.

Knowledge –Examples of preserved apples (jam),strawberries (frozen) and onions(pickled).






In practice:
Which foods are available when? The seasons allow different foods to be grown, reared and caught throughout the year.
Research the seasonality of food
http://eatseasonably.co.uk/what-to-eat-now/calendar/

Use seasonal vegetables to make a stir fry and flavour with some fresh herbs.

Self Assessment

What does 'seasonal foods' mean?
Name a grown seasonal food? Which month is it in season?
Name a reared seasonal food? Which month is it in season?
Name a caught seasonal food? Which month is it in season?

Extension Activity

Find out how to use up a glut of apples. Including:

- How fresh apples may be stored to prolong their life
- Ways of preserving apples
- Recipes using apples
- www.gardenersworld.com/how-to/grow-plants/how-to-store-apples
- www.bbcgoodfood.com/recipes/collection/apple

Knowledge – Where does food come from?

Grown

Where does our food come from?
All our food comes from plants and animals

Reared

Caught

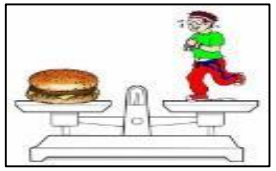
Disadvantages to choosing seasonal foods:

- They can be served too often, and having too much of one food can become repetitive.
- If the food cannot all be sold or used quickly enough, it can be wasted.

Year 9 – Why must my diet be balanced?

BMR (Basal Metabolic Rate) - This is the smallest amount of energy your body needs to stay alive, to breathe and so your heart can keep beating. It depends on age, gender and body size.

PAL (Physical Activity Level) – This is a measure of how active you are. A more active person will have a higher PAL.
BMR and PAL multiplied together will give you your daily energy requirement.
You have to **balance** your **energy** intake to keep to a healthy weight. If you eat more energy than you burn off you will gain weight and become **obese**. If you eat less energy than you use you will lose weight.



DRV's (Dietary Reference Values) These are estimates of the amount of nutrients people should have in their diet. Traffic light labels are used on packaging to show this. Red warns where fats/saturate/sugars/salt are too high.

Knowledge – Nutritional needs for different groups of people.

Everyone has their own nutritional needs, which will vary depending on their:

- **Gender**
- **Age**
- **Level of activity**
- **Health conditions**
- **Body size**
- **The environment**

To make it easier when planning meals, people are classified into target groups:

- **Babies**
- **Children**
- **Teenagers**
- **Adults**
- **Pregnant and lactating women**
- **Older adults**

Teacher Assessment:

- **Plan a presentation to outline the nutritional needs of a teenager.**
- **Plan and make a sweet and savoury food product to meet their dietary needs. Evaluate the suitability of the product by analysing the nutritional value of the product**

Self Assessment:

- **State 4 reasons why we need energy?**
- **What does BMR mean?**
- **Describe what happens if you eat more food than you need and don't exercise enough.**
- **Why do teenagers need extra protein in their diets?**
- **Why do older adults usually need less energy than younger adults?**

Knowledge – Dietary Needs through the life stages

Babies: **Ideally they should have breast milk for the first six months.**
Babies should taste and try lots of different suitable foods. They need lots of energy for growth and movement. Don't add salt or sugar to babies' food.
Foods rich in iron and vitamin C are especially needed from 6 months, as the babies natural stores of iron are low.
Children: **Gradually introduce the Eatwell Guide between 2 and 5 years. All need to eat regular, smaller meals, snacks and drinks. High energy needs due to growth and activity.**
Eat less salt and sugar. Protein, Calcium and vitamin D. Iron and vitamin C. B group vitamins.
Teenagers: **Increased appetites. Growth spurts and very active, so high energy needs. If teenagers are inactive, they should eat smaller portions to avoid weight gain. Boys need protein for muscle growth. Girls need more iron to replace blood loss during menstruation, they are prone to iron-deficiency anaemia. Follow the EWG and include a good supply of protein, calcium and vitamin D, iron and vitamin C.**
Adults: **have lower energy needs.**
They need to avoid foods high in sugar and fat to prevent weight gain. Many adults are overweight or obese, so they should make lower-calorie choices. They should follow the eatwell guide and include a good supply of calcium and vitamin D, Iron and vitamin C.
Pregnant Women: **Prepare food safely to prevent food poisoning. Include plenty of watery drinks, e.g. flavoured water. Higher energy needs for last 3 months of pregnancy. Folic acid (especially at the start of pregnancy) – this helps prevent birth defects. They should follow the eatwell guide and include a good supply Protein, Calcium and vitamin D, Iron and vitamin C.**
Lactating Women: **Prepare food safely. Include plenty of watery drinks – the mother must stay hydrated. Energy needs of breastfeeding mothers increase as the baby gets bigger. They should follow the eatwell guide and include a good supply of protein, calcium and vitamin D, Iron and vitamin C.**
Older adults: **The elderly usually slow down, so less energy is needed. Older adults don't absorb nutrients as easily as younger adults. Need plenty of watery drinks: plain water, tea and squashes are fine. They should follow the eatwell guide and include a good supply of fibre, calcium and vitamin D, Iron and vitamin C.**

(Food)

Technology (RM)

Year 9 Circular Economy

The circular economy is a system where materials never become waste and nature is regenerated. In a circular economy, products and materials are kept in circulation through processes like maintenance, reuse, refurbishment, remanufacture, recycling, and composting.

Positive impacts of a circular economy

1. Reducing waste and pollution: The circular economy aims to minimize waste and pollution by promoting the reuse, repair, and recycling of products and materials, which can significantly reduce environmental impacts.
2. Conserving resources: By keeping resources in use for as long as possible, the circular economy helps to preserve natural resources and reduce the need for extracting new raw materials, thereby conserving valuable resources.
3. Creating jobs and economic growth: The circular economy can create new business opportunities and jobs, particularly in areas such as resource management, waste reduction, and sustainable production, contributing to economic growth and development.
4. Lowering greenhouse gas emissions: The circular economy can help reduce greenhouse gas emissions by promoting more efficient and sustainable production and consumption patterns, leading to a lower carbon footprint
5. Improving social outcomes: The circular economy can contribute to social outcomes such as reducing poverty and promoting social inclusion by creating job opportunities, fostering innovation, and promoting sustainable consumption patterns.
6. Fostering innovation: The circular economy requires new ways of thinking and innovative approaches to design, production, and consumption, leading to new business models, products, and services that can drive economic growth and social progress.

What kind of resources are we using in our everyday life? Could we keep going with the way we currently live forever? What are the limitations? What could we do about it?

Art
(Textiles)

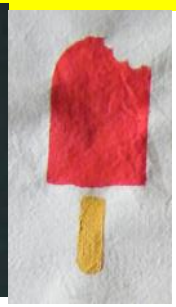
Textiles Year 9 - Inspired wall Art

Design Brief

Be able to design and make wall art; taking inspiration from a chosen theme and relevant artist. Using a range of Textile decorative and constructive techniques

Motif Stencil Making Process

Key Knowledge



Stencil for an Individual Motif

Straight Repeat

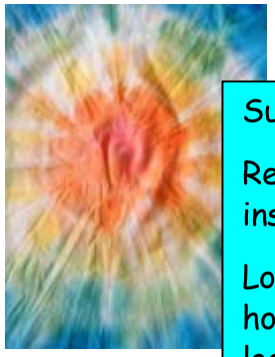
Brick Repeat

Stencil Making Process : When you have found your image to make your stencil from you will need to plan which parts you will cut out for the fabric paint to go through to your fabric

Tye Dye patterns

Lines

Circles



Starburst

Suggested practical task

Research a local gallery/ museum and go visit if possible. Gain inspiration, take photos

Look through clothing/ home furnishing labels you may have at home and research the designer. You can do this virtually, by looking online also.

Have fun!