

Knowledge Goals Homework Booklet (Summer 2)

Year 7 and 8

Name: _____



Subject	Page Number
DEAL (Year 7)	<u>7</u>
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British Values	<u>9</u>
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Suggested Homework Schedule (30 minutes of independent study per subject each week)

	Subjects to Revise	
Monday	English	History
Tuesday	Mathematics	Geography
Wednesday	Science	French
Thursday	Computer Science	Food Technology
Friday	Music	Physical Education
Saturday	Tier 2 Vocab	Drama
Sunday	Design and Technology	Art and Design

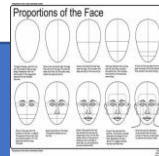
To help you get organised, we have planned out your weekly homework slot for each subject.

Subject Homework Frequency Information

Subject	Homework
Art	Once per half term
Computer Science	Once per half term
Design and Technology	Fortnightly
Drama	One per half term
English	Weekly
Food Technology	Fortnightly
French	Fortnightly
Geography	Fortnightly
History	Fortnightly
Mathematics	Weekly
Music	Once per half term
PSHE	Once per half term
Physical Education	One per half term
Religious Studies	One per half term
Science	Weekly

Mind mapping

- Mind mapping is simply a diagram to visually represent or outline information.
- Use information gathered from your Knowledge Goals booklet to create mind maps, make sure to use colour and images and keep writing to the bare minimum.



HOW TO MIND MAP VIDEO

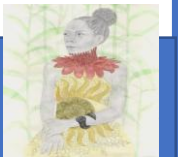
Parent information on knowledge retrieval:



Flash cards

Use your Knowledge Goals booklet to make flash cards. Write the questions on one side and on the other record the answer.

Test yourself or work with a friend to make sure you know all of the key information for each topic.



HOW TO FLASH CARD VIDEO

How should students use the Knowledge Goals booklets?

Your **Knowledge Goals** booklet provide the essential knowledge that you need to learn in each subject this half term.

You are expected to spend **30 minutes per subject per week** 'learning' the content.

You will be assessed during lessons using 'low stake' quizzing.

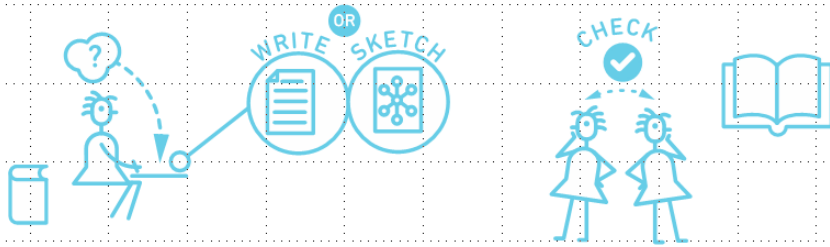
Your teacher may choose to set you additional homework.

How can parents support?

- Read through the booklet with your child – if you don't understand the content then ask them to explain it to you – 'teaching' you helps them to reinforce their learning.
- Test them regularly on the spellings of key words until they are perfect. Get them to make a glossary (list) of key words with definitions or a list of formulae.
- Read sections out to them, missing out key words or phrases that they have to fill in. Miss out more and more until they are word perfect.

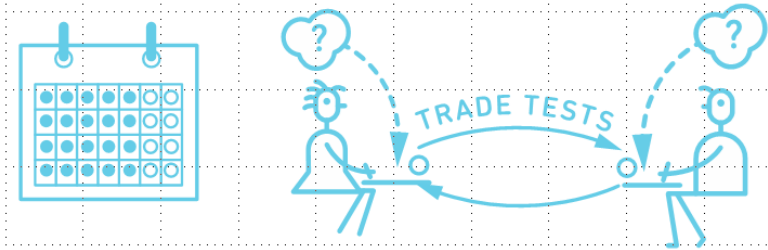
HOW TO DO IT

Put away your class materials, and write or sketch everything you know. Be as thorough as possible. Then, check your class materials for accuracy and important points you missed.



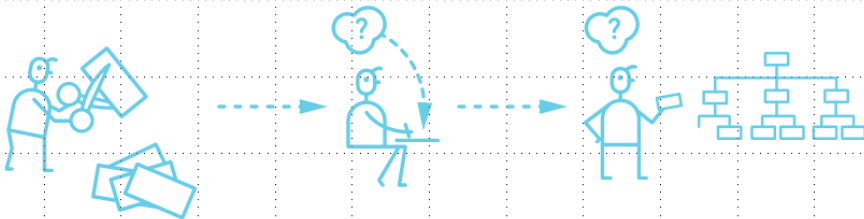
HOW TO DO IT

Take as many practice tests as you can get your hands on. If you don't have ready-made tests, try making your own and trading with a friend who has done the same.



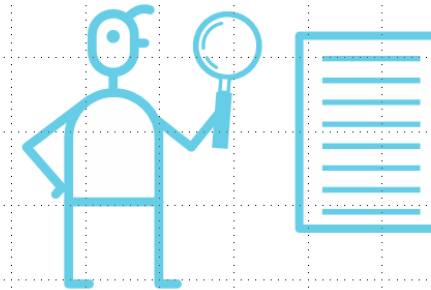
HOW TO DO IT

You can also make flashcards. Just make sure you practice recalling the information on them, and go beyond definitions by thinking of links between ideas.




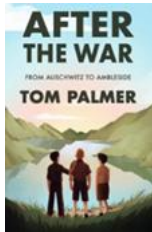
HOLD ON!

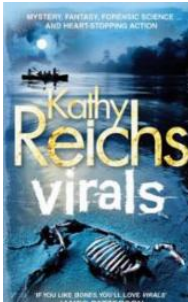

Retrieval practice works best when you go back to check your class materials for accuracy afterward.



Tier 2 Vocabulary		
	Key word	Definition
1	eloquent	having a skillful way with words
2	flighty	fickle, irresponsible
3	hysteria	in state of extreme upset
4	overstate	exaggerate
5	shrewd	clever, intelligent
6	versatile	adjustable, flexible

These words are all tier 2 words; in other words, they are seen as 'academic vocabulary' and if you know them, can understand them and use them, you will do better in your exams and be able to communicate more precisely and effectively in life.

Book Title	Author	Genre	Overview				Image
Skellig	David Almond	Fiction (Magical/realism)	Ten-year-old Michael and his parents have recently moved to a dilapidated house on Falconer Road. While they work on renovating the house, Michael's sister is born prematurely. Due to her critical heart condition, it is not clear whether she will survive. Michael deeply cares about her, so this situation puts him under an extraordinary amount of stress.				
British Values	Tolerance		Individual Liberty	Rule of Law	Democracy	Mutual respect	
After the War	Tom Palmer	Non-fiction (Holocaust)	Summer 1945. The Second World War is finally over and Yossi, Leo and Mordecai are among three hundred children who arrive in the English Lake District. Having survived the horrors of the Nazi concentration camps, they've finally reached a place of safety and peace, where they can hopefully begin to recover. Will life by the beautiful Lake Windermere be enough to bring hope back into all their lives?				
British Values	Tolerance		Individual Liberty	Rule of Law	Democracy	Mutual respect	

Book Title	Author	Genre	Overview				Image	
Virals	Kathy Reichs	Modern Fiction (Crime Thriller)	Fourteen-year-old Tory Brennan is as fascinated by bones and dead bodies as her famous aunt, acclaimed forensic anthropologist, Tempe Brennan. However, living on a secluded island off Charleston in South Carolina there is not much opportunity to put her knowledge to the test. Until her and her ragbag group of technophile friends stumble across a shallow grave containing the remains of a girl who has been missing for over thirty years.					
British Values	Tolerance		Individual Liberty		Rule of Law		Democracy	Mutual respect
FloodWorld	Tom Huddleston	Modern Fiction (Dystopian Thriller)	An action-packed, edge-of-the-seat thriller, FloodWorld follows Joe and Kara as they're sucked into a twisting whirlpool of gangsters, pirates, corruption and power struggles. A dystopia with an environmental edge, there are also themes of good versus evil and the blurring of those boundaries: what level of sacrifice is acceptable if it's for the greater good? And who gets to decide what the greater good is?					
British Values	Tolerance		Individual Liberty		Rule of Law		Democracy	Mutual respect

British Values: What They Mean for Us

British values are the important ideas that help make the UK a fair, safe, and respectful place for everyone. These values shape how we live together and treat each other. Here's a simple breakdown of the key British values:

Democracy

- Democracy is all about having a voice. In the UK, we get to vote in elections to choose our leaders and decide on important issues. Everyone's opinion matters!
- At school, this means having the chance to express your views, take part in decisions, and have your voice heard.

The Rule of Law

- The rule of law means that everyone must follow the law, no matter who they are. Laws help keep us safe and ensure that everyone is treated fairly.
- At school, we follow rules that help keep our environment respectful and safe for everyone.

Individual Liberty

- Individual liberty is about having the freedom to make your own choices, as long as they don't harm others. It's about having the freedom to think for yourself, express your opinions, and be who you are.
- At school, you can express yourself, pursue your interests, and have the freedom to make choices about your learning.

Mutual Respect and Tolerance

- Mutual respect means valuing other people's opinions, feelings, and beliefs, even if they're different from your own. Tolerance is about accepting people for who they are and being open to different cultures, ideas, and traditions.
- At school, we show respect by listening to each other, understanding differences, and creating a welcoming and friendly environment for everyone.

Equality

- Equality means treating everyone fairly, no matter their background, gender, race, or beliefs. Everyone should have the same opportunities to succeed.
- At school, we support equality by making sure everyone has the same chances and is treated with respect, regardless of who they are.

How British Values Apply to Us at Settlebeck

At Settlebeck, we bring British values to life by encouraging respect for each other, celebrating diversity, and working together to create a positive school community. These values help us create a safe and supportive space where we can all learn and grow, respecting each other's differences and making sure everyone feels included. By living these values, we can all contribute to making Settlebeck a great place to learn, where everyone has the chance to thrive!

Who is Banksy?

Banksy is an anonymous **British street artist** known for his powerful, thought-provoking artworks. He uses **stencils** to spray paint images with messages about politics, society, and the environment.

Quick Facts:

- **Real Name:** Unknown
- **From:** Believed to be from **Bristol, UK**
- **Art Style:** **Stencil graffiti** with **dark humour**, satire, and social messages
- **Famous For:** Creating art on **public walls** without permission – often overnight!
- **Main Themes:**
 - War & Peace
 - Poverty
 - Consumerism
 - Freedom
 - Climate change

Famous Works:

1. **Girl with a Balloon** – A young girl reaching for a red heart balloon.
2. **There Is Always Hope** – A hopeful message with a fading balloon.
3. **Flower Thrower** – A protester throwing a bunch of flowers.
4. **Devolved Parliament** – Chimps sitting in the House of Commons.



Did You Know?

- **Banksy's artwork** has sold for **millions of pounds**.
- One piece **shredded itself** just after being sold at auction!
- He created **Dismaland**, a dark twist on a theme park, in 2015.

🤖 What's the Difference Between a Tag and a Throw-Up in Graffiti?

A **tag** is a graffiti artist's signature or name. It's usually done quickly with a single colour using spray paint or marker. Think of it like a handwritten signature – simple, fast, and personal.

Tags are often the first thing graffiti writers learn to do.

Throw-Up (or Throwie) A throw-up is a larger, more colourful version of a tag. It usually has bubble-style letters, two or more colours, and a fill and outline. Still quick to do – meant to cover more space fast. It's bigger and bolder than a tag but not as detailed as a full piece



Tag example



Throw up example

Who Is Mr. Brainwash?

Mr. Brainwash is the name used by **Thierry Guetta**, a **French-born street artist** who became famous for mixing **pop culture** with **graffiti art**. His work is fun, bold, and colourful—often blending famous images with spray paint, stencils, and positive messages.

Quick Facts:

Real Name: Thierry Guetta

Born: 1966, France

Lives: Los Angeles,

USA Style: A mix of street art, pop art, and graffiti

Famous For: Bright, layered artworks featuring celebrities, slogans, and playful designs

Famous Works & Themes:

“Life Is Beautiful” – a slogan used in many of his artworks. He often uses images of Einstein, Marilyn Monroe, The Beatles, and other pop icons. He uses lots of spray paint, stencils, drips, and collage. He mixes Banksy-style street art with the feel of Andy Warhol's pop art.



Vocabulary

Graffiti

Street Art

Tag

Stencil

Mural

Crew

Piece (or Masterpiece)

Throw-up

Legal Wall

Vandalism

Cans (or Spray Cans)

Stencil Art

Positive Space

Negative Space

Gallery Art

Urban Art

Public Art



🧠 Is Graffiti Illegal or Is It Art?

✓ Yes – Graffiti *Can* Be Art!

- Graffiti uses colour, shape, and design – just like traditional art.
- Many graffiti artists (like **Banksy**) share powerful messages about society, politics, and the world.
- It's now shown in **galleries, exhibitions**, and even **sold for thousands of pounds**.
- Street art festivals and legal walls allow graffiti to be created **legally and celebrated**.

⚠️ But – Graffiti *Can* Be Illegal

- If someone paints or writes on a wall or building **without permission**, it is classed as **criminal damage or vandalism**.
- Even if it's a beautiful piece, it's still **against the law** if done without consent.
- Councils often have to spend money to remove illegal graffiti.

🧠 So... What's the Answer? It depends!

Graffiti is both: It's illegal when done without permission. It's art when it's done legally, thoughtfully, and with purpose.

💬 Think About It:

Would you want someone painting on your house without asking?

Can art still be powerful if it's breaking the rules?

Malware is a general term that describes lots of different programs that try to do something unwanted to your computer. Anti-virus software prevents malware from attacking your computer or mobile device. There are free anti-virus applications available:

- A **virus** harms your computer in some way, usually by deleting or altering files and stopping programs from running.
- A **trojan** starts by pretending to be a trusted file, but gives **unauthorised access** to your computer when you run it.
- **Worms** are difficult to get rid of. They copy themselves over networks to **external storage devices**.
- **Spyware** collects information from your computer and sends it to someone.
- **Scareware** tricks you into thinking it's software that you need to buy.



Cyber attacks and **cyber terrorism** are ways of attacking companies and organisations online. There are frequent cyber attacks on the government and businesses in the UK.

Hackers attempt to break into networks to steal private information.

A DoS attack is a deliberate attempt to prevent legitimate users of a network from accessing the services provided by the server or connected systems. The classic DoS attack will come from a single computer sending multiple requests to the server.

Denial of service attacks usually aim to overload servers or systems with requests for data or access to resources like the processor or main memory. Some denial of service attacks also exploit weaknesses, either in the security system or network infrastructure.

A firewall is software that will block unexpected connections coming in to the network. Most operating systems include a firewall.



Viruses are written by malicious programmers who wish to cause problems for other computer users.

The primary source of infection these days are **email attachments** followed by **illegal software** and infected files from the **internet**. If you have up to date **anti-virus** software installed this will immediately warn you of any infection. If not, there is usually no evidence of the virus and the user is not usually aware of it until something goes wrong.



A brute force attack goes through every possible combination of a password or encryption key. Modern computers have the processing power to go through combinations of letters, numbers and characters very quickly.


Social engineering is manipulating people into handing over confidential information such as a PIN or password. There are several forms:

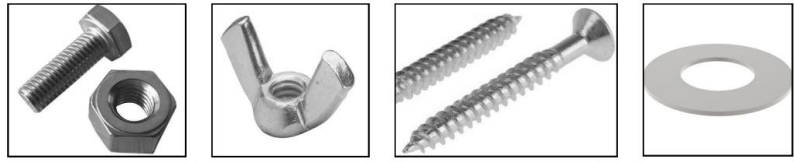
- **blagging**
- **phishing**
- **pharming**
- **shouldering**



Tier 3 Vocabulary		
Key word		Definition
1	Firewall	A digital security guard that blocks unwanted internet traffic.
2	Phishing	A scam where someone tricks you into giving away personal info, like passwords.
3	Malware	Harmful software that can damage your computer or steal your data.
4	Encryption	A way to scramble data so only the right person can read it.
5	Two-Factor Authentication (2FA)	A second step to prove it's really you logging in (like a code sent to your phone).
6	VPN (Virtual Private Network)	A tool that hides your internet activity and location.
7	Patch	A fix for a software problem or security hole.
8	Zero-Day	A brand-new security problem that hackers find before it's fixed.
9	Brute Force Attack	When a hacker tries lots of passwords until one works.
10	Social Engineering	Tricking people into giving up secrets or access.
11	Firewall	A digital security guard that blocks unwanted internet traffic.

Notes:

Quiz QR Code	Quiz Link
	Link

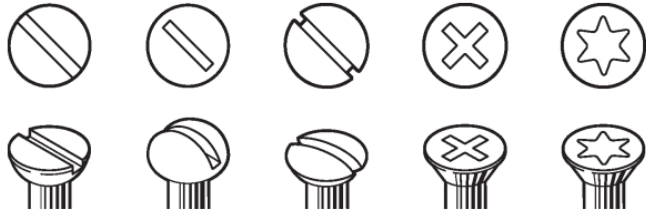


Nut and bolt

Wing nut

Screw

Washer



Screw drivers have different shaped heads to fit different shaped screws.

Hand Drill
FRONT VIEW

Cordless Drill



Brace drill



Pillar Drill

Biomimetic design is where nature inspires a designer



BURR



VELCRO



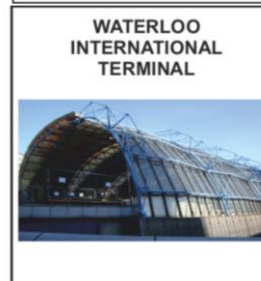
KINGFISHER



JAPANESE BULLET TRAIN



SCALY PANGOLIN



WATERLOO INTERNATIONAL TERMINAL



STRUCTURAL FURNITURE



SKELETON / BONES

Engineering: Angle poise lamp



TYPES OF LIGHT BULBS AND LAMPS



INCANDESCENT LIGHT BULB



ENERGY SAVING LIGHT BULB



LED LIGHT BULB



LED CORN LIGHT BULB



HALOGEN LAMP



KRYPTON LIGHT BULB



FLUORESCENT LAMP



INFRARED LIGHT BULB



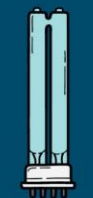
XENON LAMP



VINTAGE EDISON LIGHT BULB



FILAMENT LIGHT BULB



UV LAMP



MERCURY VAPOR BULB



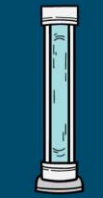
METAL HALIDE BULB



SODIUM LIGHT BULB



NEON LIGHT BULB



QUARTZ LAMP



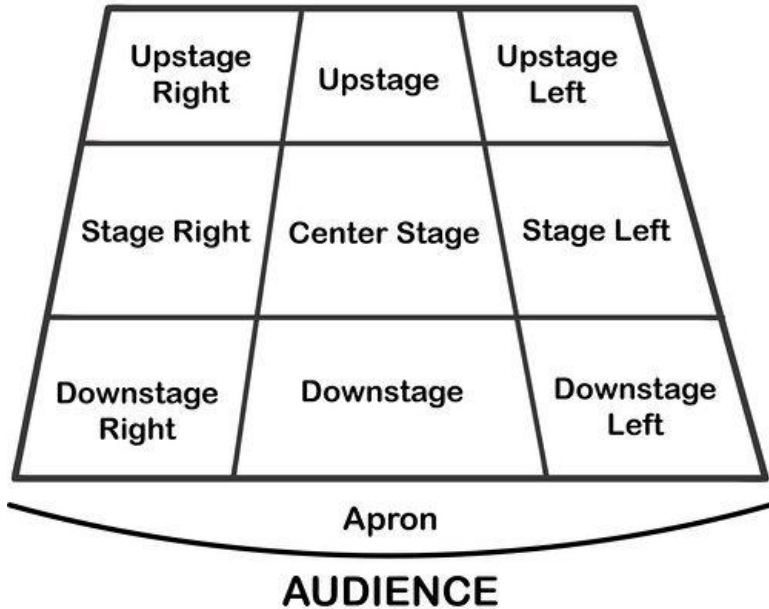
KEROSENE LAMP

Tier 3 Vocabulary		
	Key word	Definition
1	wing nut	A nut with wings on it to help adjust how tight it is.
2	angle	the space (usually measured in degrees) between two intersecting lines or surfaces at or close to the point where they meet.
3	precision	Being exact and accurate.
4	drill	A tool or machine used for making holes.
5	drill bit	Different sized tips for the drill which rotate to cut holes.
6	biomimicry	The design and production of materials, structures, and systems that are modelled on biological entities and processes.
7	soft wood	Softwood is a collective term for the wood which is produced by coniferous trees, almost all of which are evergreen.
8	sandpaper	Abrasive paper for polishing and shaping wood.
9	nut	A fastener made by screwing a nut onto a threaded bolt.
10	bolt	A fastener made by screwing a nut onto a threaded bolt.
11	washer	A small flat metal, rubber, or plastic ring fixed between two joining surfaces or between a nut and a bolt to spread the pressure or act as a spacer or seal.
12	LED	Light Emitting Diode – a bright light which comes on when voltage is applied.

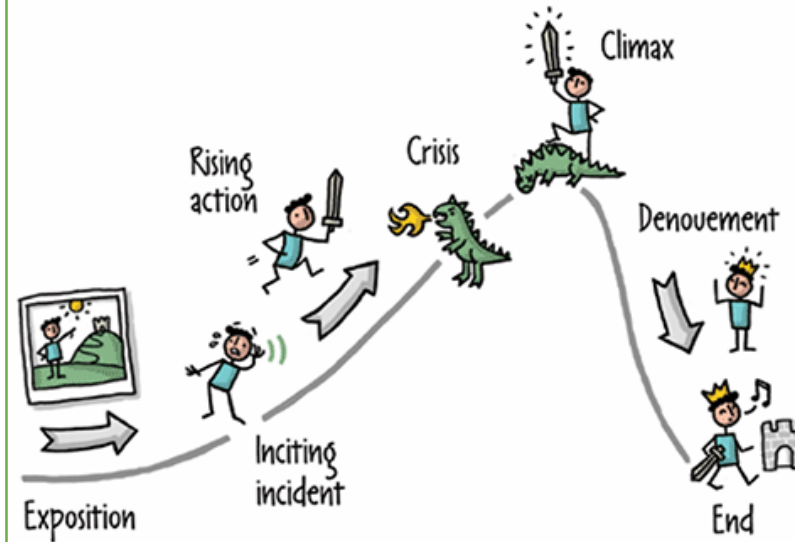
Notes

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STAGE DIRECTIONS



CHARACTER ARC



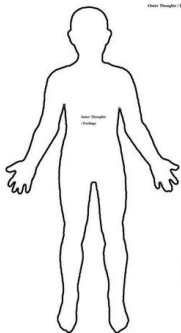
A character arc is the transformation or inner journey of a character over the course of a story. If a story has a character arc, the character begins as one sort of person and gradually transforms into a different sort of person in response to changing developments in the story.

CHARACTER DEVELOPMENT EXERCISES



HOT SEAT

Role on the wall



CHARACTERISATION

'Becoming a fictional character. 'Stepping into their shoes'.

What do we need to know in order to do this?

- | | | |
|--------------------|----------------------------|-------------|
| • Age | • Hobbies | • Traits |
| • Sex | • Motivation | • Goals |
| • Background | • Backstory | • Habits |
| • Likes & dislikes | • Strengths and weaknesses | • Lifestyle |

This image shows a full page of white paper with horizontal grey ruling lines. At the bottom right, there is a solid black rectangle with the words "Quiz Link" written in white, sans-serif font.

Quiz Link

QUIZ

Year 7 and 8 Knowledge Goals: English (Poems from other Cultures)

Culture - Culture is a system of shared beliefs that is used by a society in order to interact with the world, as well as with each other. Often, we think of the food, music, clothing, and holidays that are shared by a group as part of their culture. The British culture: The culture of the United Kingdom is influenced by the UK's history as a developed state, a liberal democracy and a great power; its predominantly Christian religious life; and its composition of four countries—England, Wales, Scotland and Northern Ireland—each of which has distinct customs, cultures and symbolism. British traditions and hobbies: - Traditional roast dinner on a Sunday - Eating a full English breakfast - Making a cup of tea in a crisis - Watching the football - Eating fish & chips at the seaside.

KEY TEXTS

- **Two Scavengers in a truck two beautiful in a Mercedes**- Four people are stuck at traffic lights in downtown San Francisco. The poem is about the contrast between the rich and poor in society.
- **Night of the Scorpion**- The poet recalls and describes a memory about when his mother was stung by a scorpion and how various people reacted to the ordeal.
- **Blessing**- A poem that focuses on cultural differences and appreciations. The poet describes how people living in poverty on the outskirts of Bombay celebrate the importance of fresh drinking water.
- **Limbo** - It describes the similarity between a limbo dance and the transportation of African slaves into the West Indies and America
- **Island Man**- A poem focusing on the cultural identity of a Caribbean man who wakes up London, while still dreaming about his native island. The poet juxtaposes the two environments to show the contrasts between island life versus city life.



Comparing connectives

Likewise
Similarly
Equally
Likewise
As with

Contrasting connectives

However
Whereas
On the other hand
Alternatively
Although

Scan to read the poems and find out more


Vocabulary to describe reactions and for emotions

Reaction:

Humiliated
Mortified
Horried
Disgraced
Disgusted
Ashamed
Infuriated
Pitiful

Emotions:

Pride
Oppressed
Resentful
Sympathetic
Honour
Self-identity
Compassion
Empathy

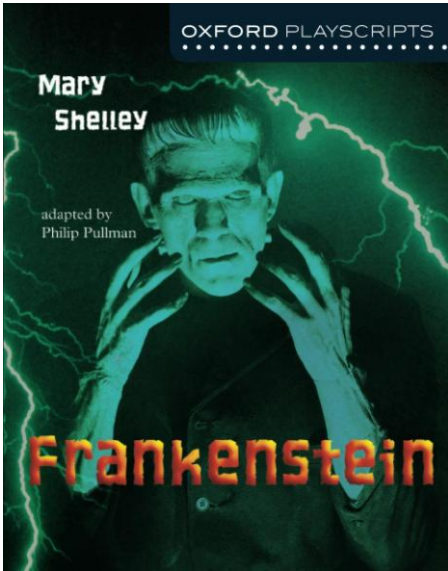
				
Two Scavengers In A Truck Two Beautiful People in a Mercedes	Night of the Scorpion	Blessing	Limbo	Island Man

Tier 3 Vocabulary		
Key word		Definition
1	stanza	An arrangement of a certain number of lines, usually four or more, sometimes having a fixed length, meter, or rhyme scheme, forming a division of a poem.
2	simile	A figure of speech in which two unlike things are explicitly compared using the words like or as.
3	metaphor	A figure of speech in which a term or phrase is applied to something to which it is not literally applicable in order to suggest a resemblance.
4	personification	The attribution of human nature or character to animals, inanimate objects, or abstract notions.
5	alliteration	A figure of speech in which the same sound repeats in a group of words.
6	assonance	A figure of speech in which the same vowel sound repeats within a group of words.
7	onomatopoeia	The use or creation of a word that phonetically imitates, resembles, or suggests the sound that it describes.
8	sibilance	A hissing sound that's created as a result of the letter "s" or other letter combinations.
9	enjambement	The running over of a sentence from one verse or couplet into another so that closely related words fall in different lines.
10	caesura	A break or pause in the middle of a line of verse.

Notes



Mary Shelley

**About the Author:**

- **Mary Shelley** was the daughter of the philosopher **William Godwin** and the writer **Mary Wollstonecraft**, who wrote Vindication of the Rights of Woman. This was the earliest example of feminist writing.
- Mary Wollstonecraft argued that women ought to have an education equal with their position in society, claiming that women are essential to the nation because they educate its children and because they could be "companions" to their husbands, rather than mere wives. Instead of viewing women as ornaments to society or property to be traded in marriage, **Wollstonecraft maintained that they are human beings deserving of the same fundamental rights as men.**
- Mary Shelley's mother died in childbirth and she was raised by her father.
- At age 18 Mary Shelley ran off with **Percy Bysshe Shelley**, a leading British Romantic poet, who she married in **1816**.
- In 1816, the couple famously spent a summer near **Geneva, Switzerland**, where they— this is where Mary Shelley conceived the idea for Frankenstein.- **wrote ghost stories**
- Mary Shelley experienced **a great deal of death in her own life**. For example, her mother died from poisoning after giving birth to her, **three of her four children died young**, and she dealt with the grief **of losing her husband Percy Shelley and good friend Lord Byron**. It is not surprising that with all of the suffering that occurred in her life, Shelley's novel contains such a great deal of death within it.
- After her husband died in **a shipwreck in 1822**, Mary Shelley fell into poverty. She continued to write fiction to support herself. Frankenstein was her first and by far her most successful work of fiction.

CONTEXT

Enlightenment (16th – 18th Centuries)	The era just before Frankenstein was written. A period of history which involved the development of new ideas and scientific discovery . During this time people began questioning God. It also led to the Industrial Revolution .
Romanticism (18th 19th centuries)	The text is a Romantic text – it features discussions over the beauty of nature. The Romantics believed in the power of God and the beauty of nature.
Prometheus	The novel's subtitle is ' The Modern Prometheus '. Prometheus is a figure in Greek culture/religion, who made humans out of clay. He also stole fire from the Gods , and to punish him, they chained him to a rock and called an eagle to peck out his liver each day.
Galvanism	Scientist Luigi Galvani applied electrodes to dead body parts and caused them to be 'reanimated' – the muscles moved as if the creatures were alive. This was exciting and terrifying for Victorians.
Lord Byron	Influential poet/author and friend of Mary Shelley and her husband.
Jean-Jacques Rousseau	Philosopher from Switzerland – known to Percy Shelley. His theory (which was radical at the time!) was that people begin life as innocents and may become corrupted/evil over time due to culture and society. (tabula rasa)

KEY CHARACTERS:

Captain Walton: Arctic explorer, tough but has come across something that has terrified him.

Victor Frankenstein: Idealistic young scientist.

Henri de Clerval: Friend of Frankenstein, more realistic and clear-sighted than Frankenstein.

Elizabeth: Frankenstein's cousin, cares for Frankenstein's father and brother William.

The Monster: Hideous creature, but graceful and intelligent.

Felix: Young, quick-tempered. Brother to Agathe. They are both political refugees.

Agathe: Blind. Sister to Felix.

SUMMARY OF ACTS

Prologue and Act 1

- Captain Walton introduces the play from his ship in the Arctic and recounts when he first met Frankenstein.
- Clerval comes to visit Frankenstein in Switzerland. Frankenstein has been conducting experiments to 'build' a human out of dead body parts. He believes he can bring it back to life using electricity generated by the coming storm.
- Elizabeth, Frankenstein's cousin, has come to visit him. Frankenstein has not been responding to her letters, which she has been sending to inform him about his father's illness.
- Clerval is horrified when he realises what Frankenstein is about to do, but is unable to stop him.
- Frankenstein finally succeeds in bringing the Monster to life. Unfortunately, he is repulsed by what how ugly the Monster is, and rejects the Monster.

Act 2

- The Monster runs away to the forest, and discovers a cottage. The cottage belongs to Felix and Agathe, who is blind.
- The Monster listens to the music Agathe plays, and eats some of her food. He feels guilty for taking it without permission, so he goes out to get firewood and an apple for her.
- When the Monster sees his image in the mirror, he is frightened by what he sees, and screams out. Agathe realises that someone else is there, and the Monster reassures her that he is not there to hurt her.
- But, when Felix returns to the cottage, he tries to shoot the Monster, even though Agathe tries to protect him. Sadly, the Monster loses his innocent faith in humanity and leaves the scene seeking revenge against everyone.

Act 3

- Frankenstein and Elizabeth are in his study. William has gone missing, and they are both very worried and anxious.
- A group of people have found William, who is dead. The Monster enters and declares that he has killed William to hurt Frankenstein.
- The Monster tells Frankenstein that he feels betrayed, and asks Frankenstein to make him a companion – a bride to keep him company.

Act 4 and Epilogue

- Two years later, Frankenstein has made a bride for the Monster. He has attached the wires to bring her to life, and is waiting for the storm to provide electricity.
- When Clerval discovers that Frankenstein is going to build another monster, he decides to detach the wires.
- The Monster arrives on the scene and fights with Clerval. The Monster is furious for ruining the experiment, and kills Clerval.
- Frankenstein and Elizabeth enter. Just as the Monster is about to bring his bride to life, Frankenstein pulls out a handful of wires and she falls back lifeless.
- Enraged, the Monster kills Elizabeth and swears to take his revenge on Frankenstein.
- The play ends with Captain Walton stating the Frankenstein died at the end of telling his story.
- The Monster disappeared in the Arctic.

KEY THEMES

Dangerous Knowledge

Victor **ruthlessly pursues knowledge** and attempts to surge beyond accepted human limits and access the **secret of life**. This proves dangerous, as Victor's act of creation eventually results in the **destruction of everyone dear to him**.

Ambition and its Consequences

Victor dreams of **transforming society and bringing glory to himself** through his scientific achievements. Blinded by dreams of glory, and going against nature, he fails to consider the **consequences of his actions**. The story suggests that **ambition is dangerous** because it has the potential to become evil.

Monstrosity

The Monster seems like he's evil because of his appearance: he is eight feet tall and hideously ugly, and is **rejected by society because of this**. However, we don't see him this way in his interaction with the Agathe. One can argue that **Victor himself is a kind of monster, as his ambition, secrecy, and selfishness alienate him from human society**. Ordinary on the outside, he may be the true "monster" inside, as he is eventually consumed by an **obsessive hatred of his creation**.

Prejudice

Frankenstein explores one of **mankind's most persistent and destructive flaws: prejudice**. Nearly every human character in the novel assumes that the Monster must be dangerous based on its outward appearance, when in truth the Monster is (originally) warm and open-hearted. Again and again the monster finds himself assaulted and rejected by entire villages and families despite his attempts to convey his benevolent intentions.

KEY QUOTATIONS

Walton	'...a creature like a man, but huge and hideous beyond belief.'	Pg.10
Frankenstein	'Yes, if we're lucky tonight and it storms...well, my dear fellow, we're in the threshold of a new age.'	Pg.14
Frankenstein	'And I thought: the power that can do that is the power of life and death. I'll harness it. I'll study it and master it and make it work for mankind.'	Pg.16
Frankenstein	'There's no cause for shock or disgust in nature.'	Pg.17
Frankenstein	'You've no idea how lonely it's been...I've been working at this for six years now.'	Pg.19
Elizabeth	'I'm worried. I have such dreams...I see Victor in them, and there's something horrible pursuing him – or is he pursuing it?'	Pg.22
Frankenstein	'Clerval, I beg you – leave me alone – you don't know how dangerous this could be.'	Pg.25
Clerval	'This is pure evil, Frankenstein.'	Pg.26
Frankenstein	'But you're not what I thought you'd be...I thought I was making an angel...I thought I was making something better than human!'	Pg. 26
Monster	'I will not hurt anyone. I am their friend. Friend of everyone.'	Pg.34
Monster	'Men see me, they hurt me...But I am good. I want to love them, not hurt, not kill.'	Pg.35
Monster	'Evil? Evil – you want evil? – then I shall be evil! I shall be terror and hatred and revenge – revenge!'	Pg.36
Agathe	'We should have helped him, Felix. He was an outcast just like us.'	Pg.37
Monster	'I am exactly what you made me, Frankenstein.'	Pg.39
Frankenstein	'Monster! I didn't create you to do evil – why have you betrayed me?'	Pg.41
Monster	'...you turned away in horror and left me to find my own way through the world...'	Pg.41
Monster	'All alone in the icy mountains, weeping, crying with rage and loneliness.'	Pg.42
Monster	'Your God has nothing to do with me. You are my God. You made me, and you owe me happiness.'	Pg.42
Monster	'You, the creator of my misery. You the source of all my unhappiness.'	Pg.43
Monster	'How can I love, when I am met with nothing but hatred and disgust?'	Pg.44
Clerval	'He's a genius. He's the greatest man of science the world has ever seen...'	Pg.47
Monster	'It's because he, cursed though he is, made me better than your God made you.'	Pg.50
Monster	'You'll follow me, Frankenstein. Wherever I go you'll come stumbling after me, intent on putting me to death – but you won't catch me!'	Pg.54

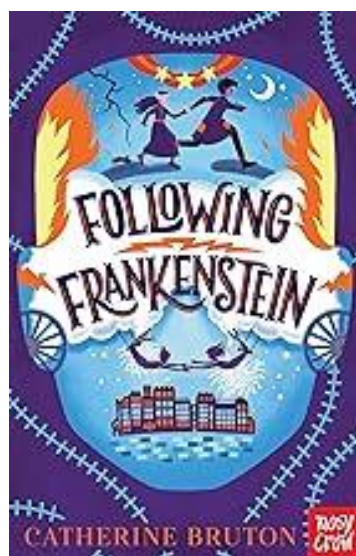
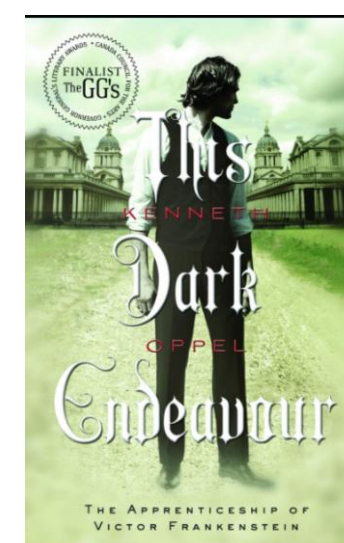
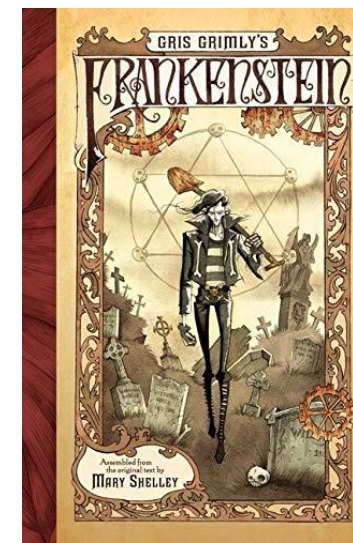
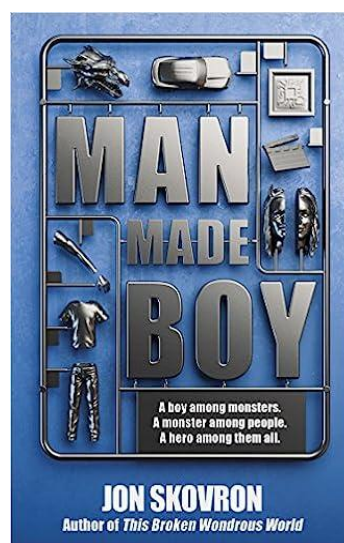
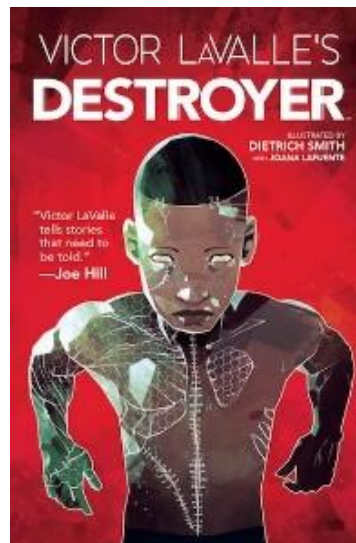
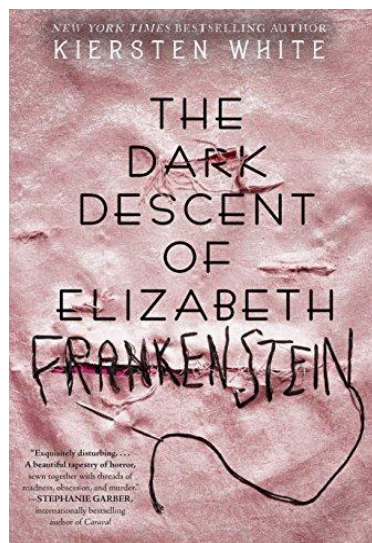
Summer Term: Tier 3 Vocabulary

Key word		Definition
1	gothic fiction	A genre popular in the C18th and C19th characterised by mystery and horror.
2	frame narrative	A story within a story. Adds realism and truth because there are two story tellers.
3	adaptation	A stage play adapted from a novel.
4	prologue	An introductory section in a literary work.
5	monologue	A long speech by one actor in a play.
6	dialogue	A conversation between two or more people
7	epilogue	A conclusionary section at the end of a play.
8	stage direction	An instruction in a play which indicates how something should be set or acted.
9	pathetic fallacy	When the weather or nature reflects the emotions of characters or the mood of a scene.
10	catalyst	An event or character that sparks change in the story.
11	doppelgänger	A double or mirror image of a character. (Victor Frankenstein and his Monster)
12	revenge tragedy	A dramatic genre where the protagonist suffers a downfall and revenge drives the plot.
13	hamartia	A fatal flaw or weakness that leads to the downfall of a tragic hero.
14	hubris	Excessive pride or self-confidence. In tragedy, hubris is often the fatal flaw of the tragic hero.

Summer Term: Tier 2 Vocabulary

Key word		Definition
1	abhorrent	hateful, loathsome, despicable.
2	anguish	torment, suffering, distress.
3	compassion	pity, sympathy, empathy.
4	condemned	sentenced to a particular punishment.
5	grotesque	very ugly, repulsive, distorted.
6	monstrous	grotesque, hideous, evil, abhorrent, huge.
7	macabre	Something disturbing because of its association with death.
8	omnipotent	all powerful, god-like.
9	prejudice	preconceived opinion not based in fact.
10	relentless	constant, never-ending, harsh, merciless.
11	retribution	Punishment inflicted on someone as vengeance for a wrongdoing. (revenge).
12	transgression	crime, sin, wrongdoing, disobedience.
13	tabula rasa	From Latin meaning "blank slate". People are not born good or evil. They are shaped by their experiences.
14	vindictive	Having or showing a desire for revenge.

Other great YA and graphic novels based on the story of 'Frankenstein'...



Types of Convenience Foods

- **Frozen meals** (TV dinners, frozen pizza, ready-to-eat meals)
- **Canned foods** (soups, beans, vegetables, meats)
- **Instant foods** (ramen noodles, instant oatmeal, microwaveable rice)
- **Packaged snacks** (chips, granola bars, pre-cut fruit)
- **Fast food** (burgers, fries, takeout meals)

Benefits of Convenience Foods

- **Time-saving** (comparison of cooking from scratch vs. using a frozen meal)
- **Portability** (grab-and-go meals, lunchbox foods)
- **Emergency use** (stocked pantry with canned goods)

Downsides of Convenience Foods

- **High in sodium, sugar, or unhealthy fats** (nutrition labels on instant meals)
- **More packaging waste** (single-use plastic, excessive wrapping)
- **Less fresh ingredients** (comparison of fresh vs. processed versions of the same food)





Healthier Alternatives

- **Homemade versions of convenience foods** (homemade granola bars vs. store-bought)
- **Balanced meal planning with convenience foods** (pairing frozen veggies with a home-cooked protein)
- **Smart grocery shopping** (choosing lower-sodium or lower-sugar options).

Watch Paul Holywood make perfect bread



NUTRIENTS FOOD CHART

Nutrient	Source	Function	Examples
Carbohydrates	Cereals, pasta, legumes, honey, sugar, potatoes.	Provide Energy	
Vitamins and Minerals	Fruits, vegetables	Regulate body processes	
Proteins	meat, milk, fish, eggs, cheese	Build and repair body tissues	
Fats	Butter, cream, oil, cheese, milk.	Provide Energy	

Bread

- **Ancient Origins** – Bread has been made for over 14,000 years, with some of the earliest evidence found in Jordan. Ancient Egyptians are credited with developing leavened bread around 3,000 BCE.
- **The Role of Yeast** – Yeast is a key ingredient that causes bread to rise. It feeds on sugars and produces carbon dioxide, which creates air pockets in the dough.
- **Flour Matters** – Different types of flour (wheat, rye, spelt, etc.) affect the texture and flavor of bread. Bread flour has a higher protein content, which helps develop more gluten for a chewy texture.
- **Kneading Develops Gluten** – The process of kneading stretches and aligns gluten strands, giving bread its structure and chewiness. No-knead bread relies on long fermentation to achieve the same effect.
- **Fermentation Adds Flavor** – Longer fermentation times (such as in sourdough baking) allow for complex flavors to develop, thanks to wild yeasts and bacteria producing lactic acid.
- **Steam Makes a Crispy Crust** – Professional bakers introduce steam into the oven when baking bread, which keeps the crust soft initially, allowing it to expand before becoming crispy.
- **Salt Strengthens Gluten** – Salt not only enhances flavor but also helps control yeast activity and strengthens the gluten network in dough.

Tier 3 Vocabulary		
	Key word	Definition
1	convenience food	Pre-prepared or partially prepared food that requires minimal effort and time to cook or serve.
2	processed food	Food that has been altered from its natural state for safety, convenience, or longer shelf life, such as canned or frozen meals.
3	Preservatives	Substances added to food to prevent spoilage and extend shelf life, commonly used in convenience foods.
4	dehydration	A method of food preservation where moisture is removed to increase shelf life, such as dried pasta or instant soup.
5	ready meal	A fully prepared meal that only requires reheating before eating, commonly found in supermarkets.
6	fermentation	A process where yeast breaks down sugars, producing carbon dioxide, which helps the dough rise.
7	kneading	The process of stretching and folding dough to develop gluten and improve bread texture.
8	proving	Allowing the dough to rest and rise before baking, giving the bread a light and airy texture.
9	yeast	A microorganism used in bread making that helps the dough rise by producing carbon dioxide during fermentation.
10	enzymes	Natural proteins that speed up chemical reactions in food, such as those in flour that help bread dough rise and develop structure.
11	fortification	The process of adding extra nutrients to food, such as vitamins and minerals in bread flour, to improve its nutritional value.
12	shelf life	The length of time a food product remains safe and suitable to eat before it spoils or deteriorates in quality.

Notes

[illegible]

Food and drink

les frites
 les hamburgers
 les sandwiches au jambon
 les sandwiches au fromage
 les pizzas
 les gâteaux
 les glaces
 les bonbons
 la salade
 le chocolat
 les frites
 les hamburgers
 les sandwiches au jambon
 les sandwiches au fromage
 les pizzas
 les gâteaux
 les glaces
 les bonbons
 la salade
 le chocolat

Je mange assez sainement**Je mange très sainement****Je ne mange pas sainement****par exemple****mais****J'aime****Je n'aime pas****les légumes****les fruits****la salade****J'aime****le fast-food****les frites****les choses sucrées****le chocolat****les bonbons****les biscuits**

Notes

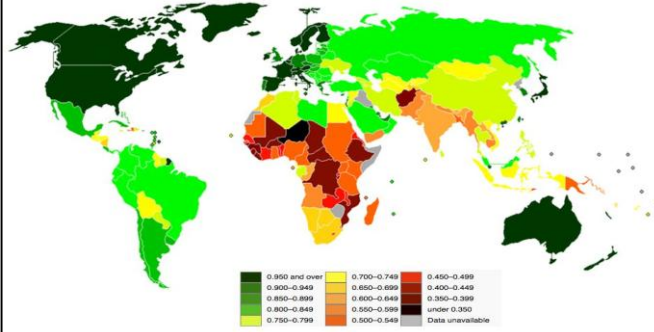
Tier 3 Vocabulary		
	Key word	Definition
1	Phonics	A method of teaching people to read by correlating sounds with symbols in an alphabetic writing system.
2	Pronunciation	The way in which a word is pronounced
3	Cognate	A word that can be recognised in another language due to its similarity to our language.
4	Stem	The root or main part of a word, to which inflections or formative elements are added.
5	Infinitive	The basic form of a verb, without an inflection binding it to a particular subject or tense.
6	false friend	Word that looks like a word in English but have completely different meaning

Sprachenut Grammar gaming

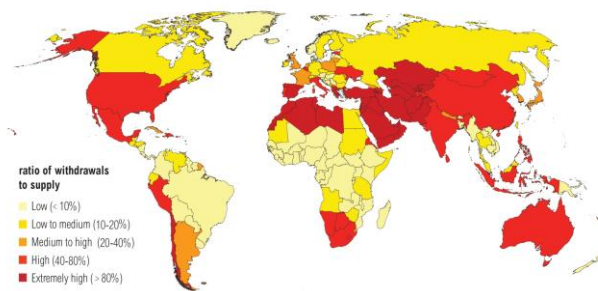
[Quiz - Click Here](#)

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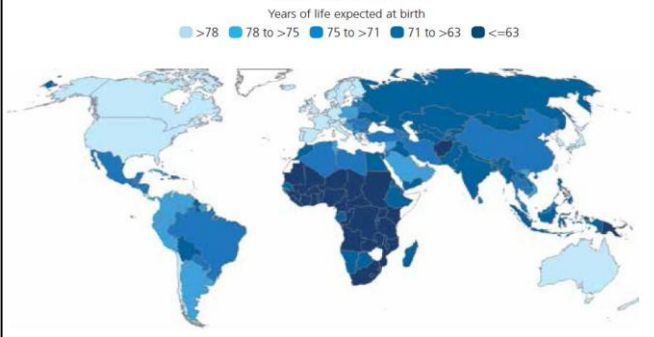
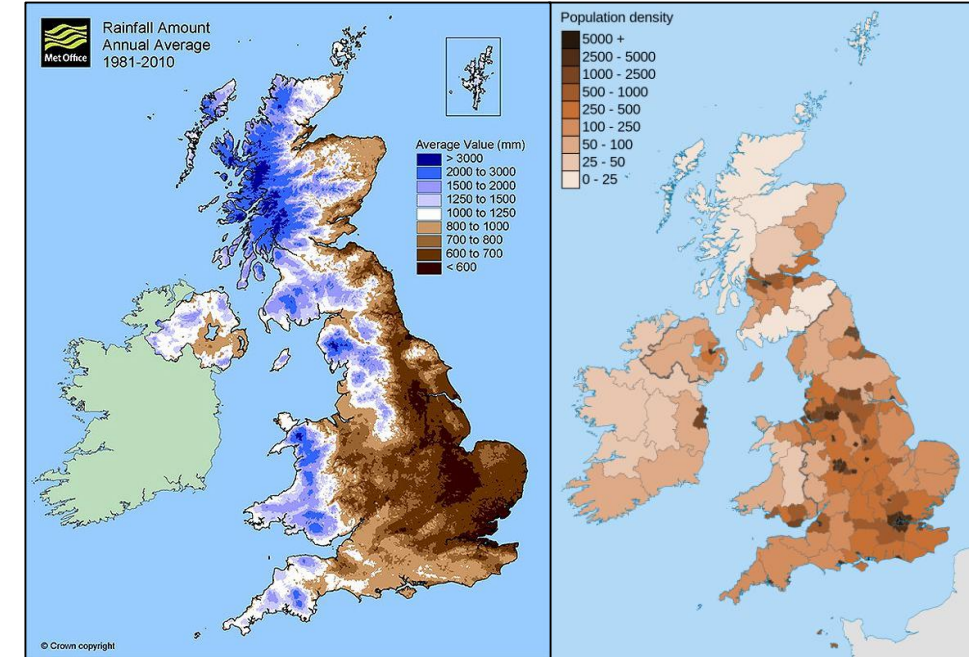
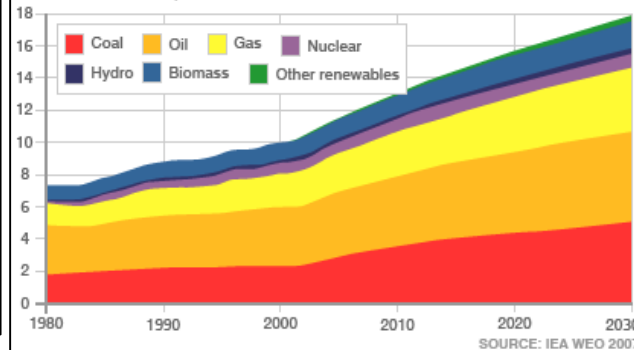
Choropleth map showing global HDI distribution



Water Stress by Country: 2040



Life Expectancy

PROJECTED GROWTH IN GLOBAL ENERGY DEMAND
Billion tonnes of oil equivalent**Newly emerging economies:**

BRIC = Brazil, Russia, India and China

MINT = Mexico, Indonesia, Nigeria and Turkey

Regeneration and development in Manchester:

Salford Quays and East Manchester

Media city – BBC ITV

Lowry centre

Tram networks and infrastructure development.

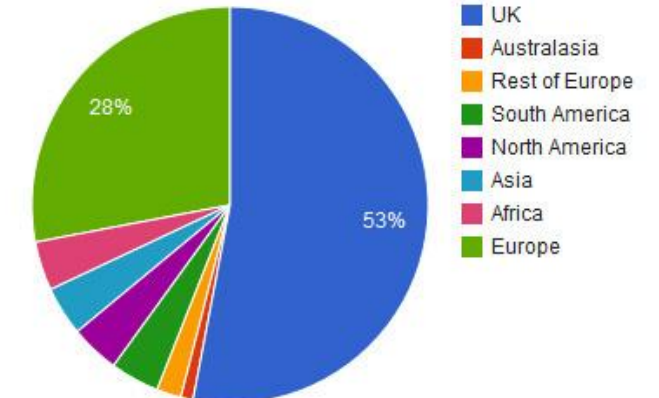
Etihad development

University of Manchester.

Shopping centres


Luxury apartments

Origin of food consumed in UK



Tier 3 Vocabulary		
Key word		Definition
1	development gap	The difference in quality of life between wealthy and poorer countries.
2	LIC	Low Income Country (poor).
3	HIC	High Income country (wealthy).
4	infrastructure	The systems within a society that help it to run smoothly, e.g. electricity, water, roads and transport, internet connectivity etc.
5	natural resources	These are naturally occurring material that a country needs or wants to help it develop e.g water, wood, fossil fuels metals, minerals etc.
6	fossil fuels	Fuels used for power made from carbon that when burnt give off carbon dioxide as a by product.
7	non-renewable energy	Energy that is from a finite resource and so will eventually run out (fossil or nuclear).
8	renewable energy	Energy that is not from a finite resource and so in principle will not run out (solar, wind, tide wave hydro electric power).
9	Regeneration	The process of changing an area that has become derelict into an area that is developed, usually funded by governments.
10	water transfer schemes	The idea of taking water from areas of a surplus to areas of a deficit. This can be done via multiple methods such as pipes, lorries or canals.

Notes:

Quiz QR Code	Quiz Link
<p>This website has information and quizzes on each aspect of the topic</p> 	<p>This website has information and quizzes on each aspect of the topic</p> <p>Link</p>

The Fight for Democracy

Traditionally, men and women had different roles in life. Men were more likely to have an education, earn money and participate in the wider world, where women were expected to look after the family and home. Women's rights were very limited in every aspect of life.

Voting is your chance to have a say on the laws of your country. It is a way of making your voice heard. For women in particular, voting is an important step towards greater equality with men. There's no guarantee that the candidate you vote for will win the election, but at least you'll have tried. If you can't vote, it's harder to have your opinions taken seriously by people in government. Elected officials generally pay more attention to people who can vote them into office than those who can't vote at all. That's why the right to vote is so important.



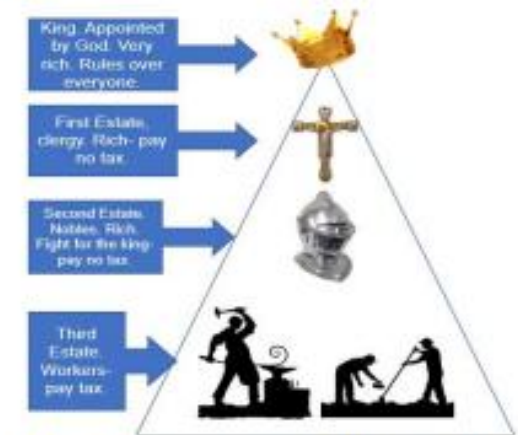
In 1897 the NUWSS (Suffragists) was set up in Britain by Millicent Garrett Fawcett. Their policy was to be persistent but peaceful. The Suffragists presented more petitions to parliament and held marches and public meetings to spread the word. Women were getting impatient for the vote, leading to the creation of the WSPU in 1903 by Emmeline and Christabel Pankhurst. They were known as Suffragettes and their motto was "Deeds not Words". They held huge rallies and caused uproar at political meetings to bring attention to their cause. They became increasingly militant in their tactics, some historians even label the WSPU as terrorists. The Suffragettes took drastic actions such as hunger strikes while in prison, setting fires to property and slashing paintings in galleries. The vote was granted in 1918 to women over 30 who owned property. Equal enfranchisement was granted in 1928 to women over 21.

Winning the right to vote was a major victory. Voting finally gave women a say. Now, when women voiced their concerns, politicians had to pay attention if they wanted women to vote for them. However the fight for women's rights continued. The 1960s was the era for women's liberation. Women were tired of not being treated as equals in the work place and society. Institutionalised sexism was a big contributor to the founding of the NOW. Women were making progress but there is still a long way to go. The last part of the globe to grant women the vote was the Middle East. Women of Saudi Arabia were the last to gain the vote in 2015! They were only allowed to drive from 2018.



Why was France unequal?

In France society was structured into the estate system which many argued was unfair.



If the king wanted to raise taxes, a vote had to be taken by the Estates General

Each estate had ONE vote, therefore the First and Second Estate out numbered the Third Estate 2 to 1!. Even though they only make up 2% of the country.

This meant that the Third Estate were the ones that had to pay tax and had no say in it. This caused a lot of anger.

Key Terms

Women's Suffrage	Women having the right to vote.
NUWSS	National Union of Women's Suffrage Societies.
WSPU	Women's Social and Political Union.
Militant	Confrontational or violent methods in support or a political or social cause.
Representation of the People Act	This Act widened suffrage by abolishing almost all property qualifications for men and by enfranchising women over 30 who owned property.
Equal Enfranchisement	Giving a person or group of people the right to vote on equal grounds.
Institutionalised sexism	Discrimination, prejudice or stereotyping based on gender.
NOW	National Organisation for Women, 1966.
Gender Equality	The state in which access to rights or opportunities is unaffected by gender.
Liberation	Freedom.

Suggested Reading:

- Girls for the Vote by Linda Newberry
- How women won the vote by Susan Campbell Bartoletti
- Roses and Radicals by Susan Zimet

Key terms

Word	Definition
Protest	A public expression of disapproval towards an idea or action, often aimed at the government.
Radical	A person who supports significant or complete social, economic and/or political change.
Great Reform Act	Law passed in 1832 which enacted significant, but limited, change to elections in Britain.
Chartism	Mass political movement from 1837-1848 which promoted the People's Charter; this included six points for voting reform, such as a vote for every man over 21 & secret ballots.
Suffrage	The right to vote in political elections.
The Riot Act	Law passed in 1714 to prevent groups of more than 12 people gathering. Repealed in 1967.
The WSPU	Women's Social & Political Union; suffragette group who advocated extreme methods in order to apply pressure on the government to extend voting rights to women.
Cat & Mouse Act	Law passed in 1913 to release suffragettes on hunger strike, & rearrest at a later date.
General Strike	A strike involving workers from different industries or places of work such as mills or factories.

Quiz QR Code



Quiz Link

[Link](#)

Probability of a single event



Probability = $\frac{\text{number of times event happens}}{\text{total number of possible outcomes}}$

$$P(\text{Blue}) = \frac{4}{10} \leftarrow \text{There are 4 blue sectors}$$

$$= \frac{2}{5} \leftarrow \text{There are 10 sectors overall}$$

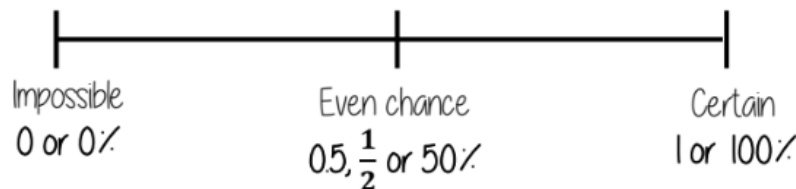
Probability notation
P (event)

Probability can be a fraction, decimal or percentage value

$$\frac{4}{10} = \frac{40}{100} = 0.40 = 40\%$$

Probability is always a value between 0 and 1

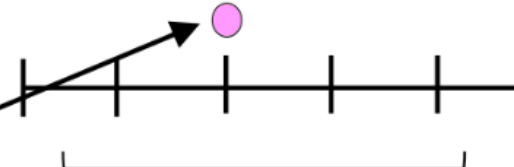
The probability scale



The more likely an event the further up the probability it will be in comparison to another event
(It will have a probability closer to 1)



There are 2 pink and 2 yellow balls, so they have the same probability



There are 5 possible outcomes
So 5 intervals on this scale, each interval value is $\frac{1}{5}$

Sum of probabilities

Probability is always a value between 0 and 1



The probability of getting a blue ball is $\frac{1}{5}$
 \therefore The probability of NOT getting a blue ball is $\frac{4}{5}$
 The sum of the probabilities is 1

The table shows the probability of selecting a type of chocolate

Dark	Milk	White
0.15	0.35	

$$P(\text{white chocolate}) = 1 - 0.15 - 0.35 = 0.5$$



Construct sample space diagrams



Sample space diagrams provide a systematic way to display outcomes from events

The possible outcomes from tossing a coin

The possible outcomes from rolling a dice

	1	2	3	4	5	6
H	1,H	2,H	3,H	4,H	5,H	6,H
T	1,T	2,T	3,T	4,T	5,T	6,T

This is the set notation to list the outcomes $S =$

$$S = \{ 1H, 2H, 3H, 4H, 5H, 6H, 1T, 2T, 3T, 4T, 5T, 6T \}$$

In between the $\{ \}$ are
a; the possible
outcomes

Probability from sample space

The possible outcomes from rolling a dice

The possible outcomes from tossing a coin

	1	2	3	4	5	6
H	1,H	2,H	3,H	4,H	5,H	6,H
T	1,T	2,T	3,T	4,T	5,T	6,T

What is the probability that an outcome has an even number and a tails?

This is the set notation that represents the question P

$$P(\text{Even number and Tails}) = \frac{3}{12}$$

In between the $()$ is the event asked for

There are three even numbers with tails

Numerator:
the event

Denominator:
the total number of outcomes

There are twelve possible outcomes

Probability from two-way tables

	Car	Bus	Wak	Total
Boys	15	24	14	53
Girls	6	20	21	47
Total	21	44	35	100

$$P(\text{Girl walk to school}) = \frac{21}{100}$$

The event (points to 21)
 The total in the set (points to 100)
 The total number of items (points to 100)

Product Rule

The number
of items in
event a

x

The number
of items in
event b

Probability from Venn diagrams

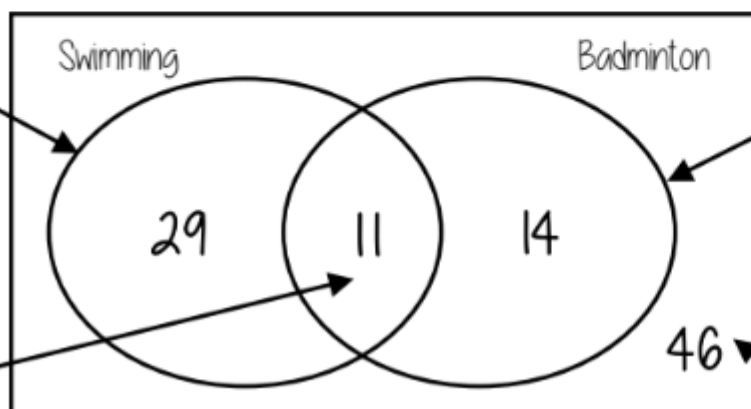
100 students were questioned if they played badminton or went to swimming club.
40 went swimming, 25 went to badminton and 11 went to both.

This whole curve includes
everyone that went
swimming.

Because 11 did both we
calculate **just** swimming by
 $40 - 11$

The intersection
represents both.

Swimming **AND** badminton



This whole curve includes
everyone that went to
badminton.

Because 11 did both we
calculate **just** badminton
by $25 - 11$

The number outside represents those
that did **neither** badminton or swimming

$$P(\text{Just swimming}) = \frac{29}{100}$$

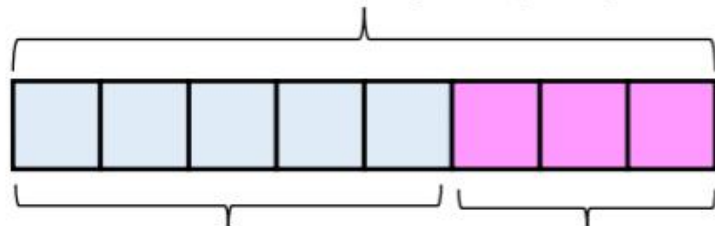
$$100 - 29 - 11 - 14$$

	Tier 3 Vocabulary	Definition
1	Probability	A measure of how likely something is to happen, from 0 (impossible) to 1 (certain).
2	Mutually exclusive	Events that cannot happen at the same time (e.g. heads or tails in one coin flip).
3	Outcome	A possible result of an experiment (e.g. rolling a 4 on a die).
4	Event	One or more outcomes (e.g. rolling an even number).
5	Relative frequency	How often something happens compared to the total number of trials.
6	Expected frequency	The number of times an outcome is likely to happen based on probability.
7	Experiment	A test or activity used to observe outcomes (e.g. rolling a dice 50 times).
8	Sample space	A list of all possible outcomes of an event.
9	Venn diagram	A diagram using circles to show how different sets or events overlap.
10	Tree diagram	A diagram that shows all possible outcomes of two or more events in branches.
11	Estimate	A close guess based on data or patterns.
12	Trial	One round of an experiment (e.g. one coin toss).
13	Repeated events	When an experiment or action is done more than once (e.g. rolling two dice).
14	Theoretical probability	The probability worked out using maths, not experiment results.
15	Experimental probability	The probability worked out from doing an experiment and recording the results.

Representing a ratio

"For every 5 boys there are 3 girls"

This is the "whole" — boys and girls together



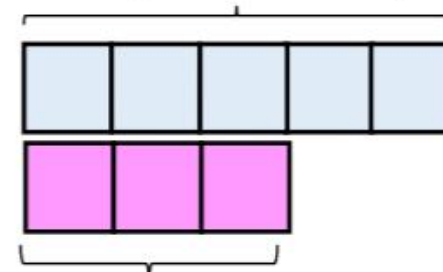
This represents the 5 boys

This represents the 3 girls

5:3

This represents the 5 boys

Double Number Line



This is the "whole" — boys and girls together

This represents the 3 girls

Order is Important

"For every dog there are 2 cats"



Dogs: Cats

1:2

The ratio has to be written in the same order as the information is given.

e.g. 2:1 would represent 2 dogs for every 1 cat. ✗

Simplifying a ratio

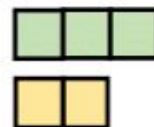
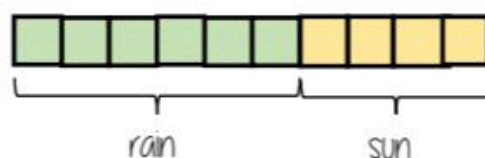
Cancel down the ratio to its lowest form

"For every 6 days of rain there are 4 days of sun"

6:4

+ by 2 ↓

3:2



Find the biggest common factor that goes into all parts of the ratio

For 6 and 4 the biggest factor (number that multiplies into them is 2)

"For every 3 days of rain there are 2 days of sun" — when this happens twice the ratio becomes 6:4

Ratio 1:n (or n:1)

This is asking you to cancel down until the part indicated represents 1

Show the ratio 4:20 in the ratio of 1:n

The question states that this part has to be 1 unit. Therefore Divide by 4

4:20
↓
1:5

This side has to be divided by 4 too — to keep in proportion

** the n part does not have to be an integer for this type of question

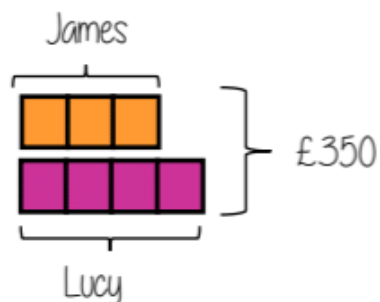
Sharing a whole into a given ratio

James and Lucy share £350 in the ratio 3:4.
Work out how much each person earns

Model the Question

James: Lucy

3 : 4



$$£350 \div 7 = £50$$

□ = one part
= £50

Find the value of one part

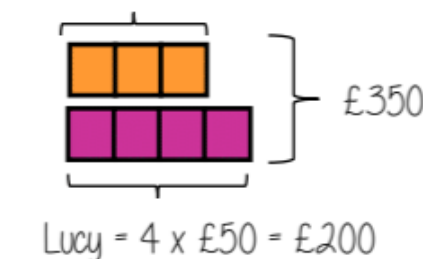
Whole: £350

7 parts to share between
(3 James, 4 Lucy)

Put back into the question

James: Lucy

$$\text{James} = 3 \times £50 = £150$$



$$\text{Lucy} = 4 \times £50 = £200$$

$$\begin{matrix} & \times 50 & 3 : 4 & \times 50 \\ \swarrow & & & \searrow \\ \pounds 150 & : & \pounds 200 \end{matrix}$$

Finding a value given 1:n (or n:1)

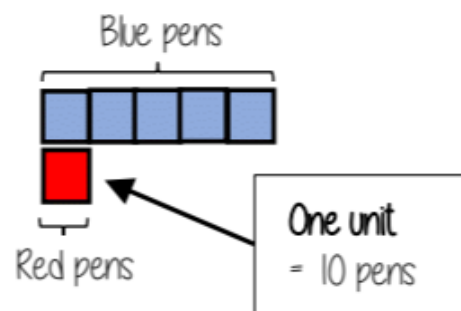
Inside a box are blue and red pens in the ratio 5:1
If there are 10 red pens how many blue pens are there?

Model the Question

Blue : Red

5 : 1

□ = one part
= 10 pens

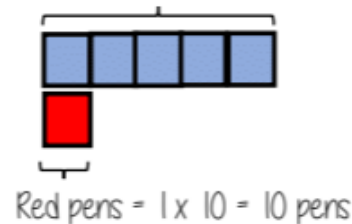


Put back into the question

Blue : Red

$$\begin{matrix} & \times 10 & 5 : 1 & \times 10 \\ \swarrow & & & \searrow \\ 50 : & 10 \end{matrix}$$

$$\text{Blue pens} = 5 \times 10 = 50 \text{ pens}$$



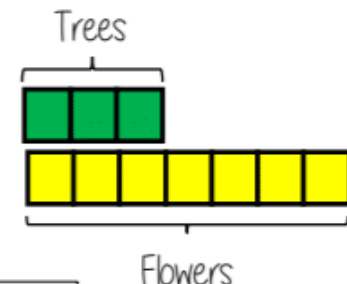
There are 50 Blue Pens

Ratio as a fraction



Trees: Flowers

3 : 7



Ratio

There are 3 parts for trees

Flowers

Fraction of trees

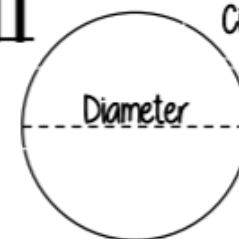
Number of parts of in group
Total number of parts

$$\frac{3}{10}$$

Fraction

$$\text{Tree parts } 3 + \text{Flower parts } 7 = 10$$

Pi II



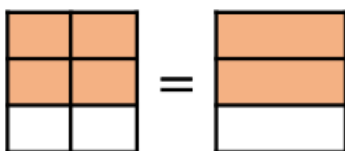
The ratio of a circles
circumference to its
diameter

Key Concept

Proportion states that two fractions or ratios are equivalent.

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

$$4:2 = 2:1$$



Key Words

Ratio: Relationship between two numbers.

Scale: The ratio of the length in a drawing to the length of the real thing.

Proportion: A name we give to a statement that two ratios are equal.

Exchange rate: The value of one currency for the purpose of conversion to another.

Examples

Write 2: 5 in the form 1 : n

$$\begin{array}{ccc} & 2:5 & \\ \div 2 \swarrow & & \searrow \div 2 \\ & 1:2.5 & \end{array}$$

a:b = 4:5 and b:c = 6:7

Find a:b:c.

The LCM of 5 and 6 is 30

$$\begin{array}{ccc} a & : & b & : & c \\ 4 & : & 5 & & \\ \times 6 \swarrow & & \searrow \times 5 & & \\ 24 & : & 30 & : & 35 \end{array}$$

Cake recipe for 6 people.

3 eggs

300g flour

150g sugar

What would you need for 8 people?

	$\div 3$	$\times 4$	
	6	2	8
eggs	3	1	4
flour	300g	100g	400g
sugar	150g	50g	200g

Metric → Imperial

Imperial \rightarrow Metric



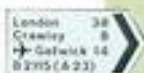
1 inch = 2.54 cm

To convert inches to cms: multiply by 2.54
To convert cms to inches: divide by 2.54

1 gallon = 4½ litres



To convert **gallons** to **litres**: multiply by 4.5
To convert **litres** to **gallons**: divide by 4.5



1 Km = $\frac{5}{8}$ mile

To convert Kilometres to miles: multiply by $\frac{1}{2}$ (0.625)
To convert miles to Kilometres: divide by $\frac{1}{2}$ (0.625)

1 litre = $1\frac{3}{4}$ pints



To convert litres to pints: multiply by $1\frac{1}{4}$ (1.75)
To convert pints to litres: divide by $1\frac{1}{4}$ (1.75)



1 Kg = 2.2 lbs

To convert Kilograms to pounds: multiply by 2.2
To convert pounds to Kilograms: divide by 2.2

Notes

Number	Tier 3 Vocabulary	Definition
1	Ratio	A way to compare two or more quantities (e.g. 2:3).
2	Proportion	A statement that two ratios or fractions are equal.
3	Direct proportion	When one value increases, the other increases at the same rate.
4	Inverse proportion	When one value increases, the other decreases.
5	Unitary method	Solving problems by finding the value of one unit first.
6	Conversion factor	A number used to change one unit into another (e.g. 1 inch = 2.54 cm).
7	Metric units	A measurement system based on 10s (e.g. metres, litres, kilograms).
8	Imperial units	An older system of measurement used in the UK and US (e.g. inches, pounds, miles).
9	Simplest form	A ratio or fraction where all parts are reduced as small as possible.
10	Equivalent ratios	Ratios that look different but represent the same relationship.
11	Fraction	A part of a whole, written like $\frac{1}{2}$ or $\frac{3}{4}$.
12	Decimal	A number that includes a dot to show parts (e.g. 0.5).
13	Best buy	The option that gives you the most for your money.
14	Unit cost	The price for one item or one unit of measure.
15	Allocation	Dividing or sharing a total into parts using a ratio.

Understanding Hooks and Riffs

1. **HOOK** – A 'musical hook' is usually the 'catchy bit' of the song. It is often short and used and repeated in different places throughout the piece.
2. **MELODIC HOOK** – a HOOK based on the instruments and the singers
3. **RHYTHMIC HOOK** – a HOOK based on the patterns in the drums and bass parts.
4. **VERBAL/LYRICAL HOOK** – a HOOK based on the rhyming and/or repeated words of the chorus.
5. **RIFF** – A repeated musical pattern often used in the introduction and instrumental breaks in a song or piece of music. RIFFS can be rhythmic, melodic or lyrical, short and repeated.
6. **OSTINATO** – A repeated musical pattern. The same meaning as the word RIFF but used when describing repeated musical patterns in "classical" and some "World" music.

Examples of Hooks and Riffs!

Keyboard Music



Arpeggios **The Final Countdown**
 Arreglo y transcripción: Ezequiel Coria Joey Tempest

F#m E D Bm E C#F#




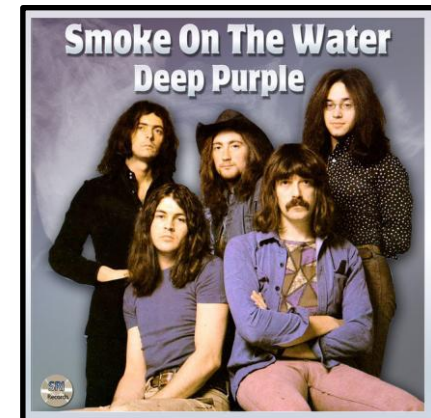
Guitar TAB

E B G D A E HIGH

T					
4					
A					
4					
B					

03 5 03 65 03 5 3 0

Smoke On the Water - Deep Purple

Tier 3 Vocabulary		
	Key word	Definition
1	hook	The catchy bit of the song.
2	riff	A short, repeated instrumental part, often played on guitar.
3	melodic hook	A hook based on pitched instruments and singers.
4	rhythmic hook	A hook based on bass guitar and drums.
5	ostinato	A repeated musical pattern.
6	texture	Layers of sound.
7	timbre	Individual sound of an instrument.
8	rhythm	A pattern of musical note values.
9	unpitched	An instrument whose sound stays the same.
10	duration	The length of a note.
11	tempo	The speed of the music.

Notes

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Events information:

What is Athletics?

- Athletics is a collection of sporting events across a number of disciplines, including running, jumping and throwing events.
- Athletics is a collection of sporting events that consist of three main areas: •track events •field events •combined events
- Athletics is often associated with the Olympics. However, it is not just for elite athletes. Each week athletes also compete at national, county, school or club level events which can be held indoors or outdoors.
- Athletics events are very specialised and often do not require a full combination of fitness components, therefore offering something for everyone.

Scoring:

Success in athletics is not judged on points or goals, but rather on times and distance.

Track events – these races are started with an electronic pistol which is only sounded again on a false start. In races that are very close, officials use a digital line -scan camera across the finish line to give them a photo finish picture. The clock stops when an athlete has passed through the finish line.

Jumping events – these events are measured from the front edge of the take -off board to the first mark made in the sand by the athlete. The distance is always measured to the nearest centimetre and athletes will always be given a minimum of three jumps. Height jump is measured vertically by the last height the athlete can clear successfully.

Throwing events – these events are measured from the front edge of the throwing line to the first mark made in the ground by the implement. The distance is always measured to the nearest centimetre and athletes will always be given a minimum of three attempts.

Health and safety in Athletics:

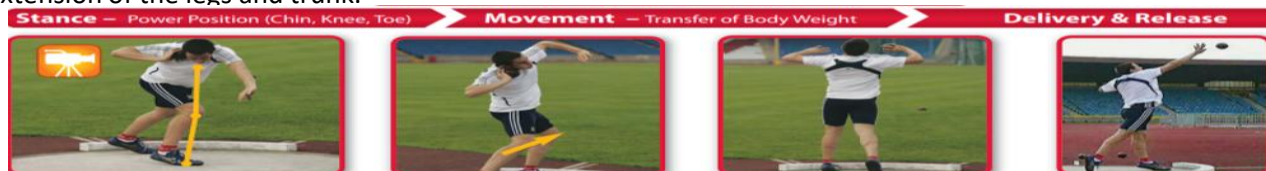
- Throwing events:**
- Keep well away from a person throwing.
 - Stand to the side when a person throwing NOT behind!
 - Wait until everyone has thrown collect your equipment.
 - Do not walk past a person who has throwing equipment in their hand.
 - Always hold a Javelin vertically.
- Running events:**
- Ensure the track is fully clear before running
 - Ensure that shoe laces are ALWAYS tied before running
- General Safety:**
- Ensure that all Jewellery is removed before performing any event.
 - Ensure that correct kit is always worn – including the correct footwear.
 - Ensure you are always warmed up before participating in any athletics activities.

Field events- Throwing events:

Throwing

Shot, discus, javelin and hammer. The objective is to throw each implement as far as possible.

Shot- Grip – clean palm dirty neck – Rest the shot at the base of the first 3 fingers of your throwing hand. Hold the shot under the chin, against the neck with the elbow raised. Keep the wrist firm. Keep the throwing elbow high throughout the movement. Turn the shoulders away from the direction of the throw. Split stance. Front foot's heel should be in line with the back foot's heel. Both legs bent with the weight on the ball of the front foot. Drive the hips forwards and upwards before release. Throwing arm pushes long and high after a full extension of the legs and trunk.



Javelin – Standing throw (see pictures) – Hold the javelin back with an extended arm and palm high. Extend the right leg at the knee and ankle to drive the hip forward over a straightened left leg. After the hip drive pull the javelin through with the elbow close to the ear. Opposite foot forward (left foot forward for right handed thrower). Stand with feet shoulder width apart, the left foot pointing forward.



Discus – Standing throw – **Grip** – Rest the discus across the finger pads, spread fingers. **Preparation** - Swing the discus back behind the right hip and behind the right leg. The toe on the left foot is in line with the heel of the right. Stand side on to the direction of the throw, with feet just over shoulder width apart. Keep the weight over the rear leg as long as possible. **Release** – keep the hand on top of the discus. Keep the arm long and relaxed. After the hip drive pull the arm through fast and last. Lead with the thumb, drive the hips forward.



Field Events – Jumping events

Jumping

Long jump, triple jump, high jump- The aim is to jump as high or far as possible.

High Jump – The objective of the high jump is to clear a bar supported on uprights having taken off from one leg. Aim to achieve maximum height at take-off.

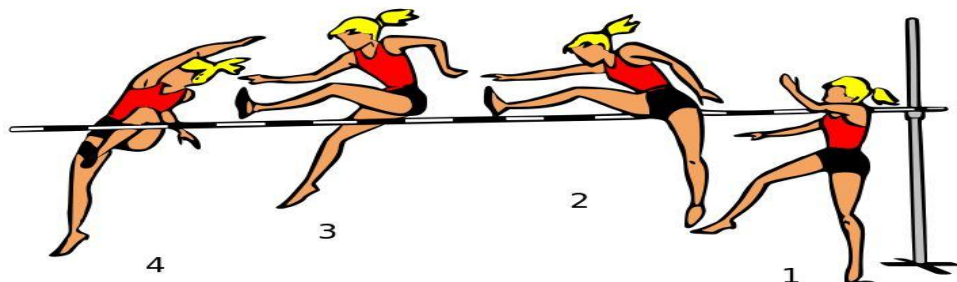
Technique – Scissor jump – Progress to Fosbury flop.

A jumper taking off from their left leg should approach from the right. A jumper taking off from their right foot should approach from the left.

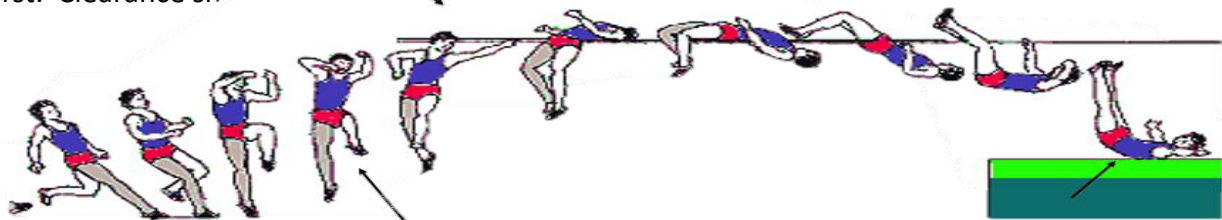
Scissors – Approach – run in an angle of 30 degrees as fast as you can towards the bar.

Take-off – Drive the leg closest to the bar up and over the bar, keep it bent. Keep the head and upper body upright. Fully extend the take-off leg at the hip, knee and ankle.

Landing – Take-off leg follows to complete the jump.



Fosbury Flop – Approach – use a J shaped run up as fast as you can. Run tall with the trunk upright. Take-off – drive the inside knee upwards – keep it high after take-off. Drive vertically at take-off. At take-off extend fully at hip, knee and ankle. Landing – Push hips upwards to 'arch' over the bar. Lift the legs clear of the bar and land safely with the mid-upper back touching down first. Clearance should occur over the middle of the bar.



Field Events – Jumping events

Long Jump – The toe of the jumper's shoe, must be behind the leading edge of the take-off board. Long jumpers are measured from the forward edge of the take-off board made by any part of the body of the jumper.

Take-Off – Sprint as fast as you can towards the marker. Keep your hips high at take-off. Fully extend hips, knee and ankle. Keep your body upright. Drive the free knee up and forwards. Drive the take-off foot down and back.

Flight – Bring arms above head. Keep body upright. Hold the thigh **parallel** to the ground during flight.

Landing – Arms reach for toes just before landing. Reach legs out in front at landing. Bring legs forward and together. Land with heels first, bend knees to absorb momentum. Collapse body forward or sideways.



Track events:

Track

Sprint – 100m, 200m and 400m. The aim is to finish in the quickest time. 100m is a straight run. 200m includes a bend and you have a staggered start. 400m is one full lap of an official sized track and you have a staggered start. For all sprints you **MUST** stay in your lane.

Sprinting technique – Keep your body straight and your head still. Keep the shoulders low and relaxed. Run tall with high hips and knees. Drive the elbows back hard. Drive the knees forward. Cycle the foot quickly under your body. Drive the foot down to the ground and pick it up fast. In the 200m and the 400m allow your body to naturally lean in to the curve.

Sprint crouch start

'ON YOUR MARKS' – Place your hands slightly wider than shoulder width apart, behind the line. Elbows straight but not locked. Form a bridge with your hands. Place the knee of the back foot level or just in front of the toe of the front foot. Place the toe of the front foot 30-50cm back from the line. To mark it out – make an 'L' make a 'T' and place the knee in line with the heel.

'SET' – Shoulders should be above or slightly ahead of the hands. Raise your hips slightly higher than the shoulders. Bend the legs – front leg about 90 degrees, rear leg about 120 degrees. Keep still.

'GO' – Drive the rear knee forward, keep low. Bring the foot quickly down to commence the second stride. Drive the arms hard in opposition to the legs. Fully extend your driving leg and hip, knee and ankle.



Distance Running – Middle 800m and 1,500m

Long distance – 3000m 5000m and 10,000m

Running technique – Swing your arms in a balanced, relaxed and symmetrical manner. Run with rhythm and relaxation. Run with hips high. Look ahead, keeping your head aligned with your body.

Breathe naturally, keeping your shoulders relaxed. Keep your shoulders and hips as relaxed as possible. Pick the heel up and swing the knee forward.

Start – Standing start is used. Foot up to the line. Start in a lane but then cut in (move) to the inside lane (lane 1) after the first bend.

Track events information:

Relay

4x100m – 4 runners, who each run 100m

4x400m – 4 runners, who each run 400m

Runner 1 starts with the baton who runs to runner 2 where the baton is exchanged, who runs to runner 3 and exchanges the baton, who runs to runner 4 and exchanges the baton, who finishes the race. The passing of the baton is called the 'changeover'. If you drop the baton or move out of your lane at any point during the race your team is disqualified. You must complete the changeover in the changeover box.

How to pass the baton

Up-Sweep – the incoming runner passes the baton **up** into the outgoing runner's hand.

Down-Sweep – receiving arm extended, but the hand level is just above hip height. Hand is almost like a 'V', and the baton is ready for landing between the thumb and first finger.

Push Pass – The arm is extended out parallel to the ground and the hand is open with the **thumb pointing down**

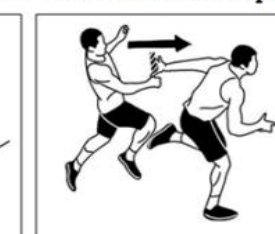
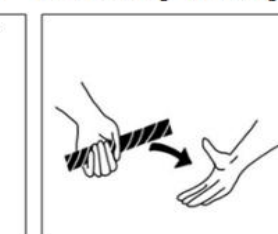
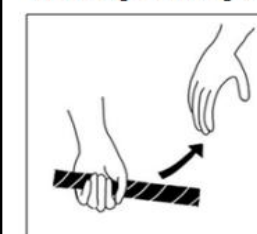
Change over – If the **first runner** has the baton in their right hand, they must stay on the inside of the lane at the exchange. **2nd runner** takes the baton on the left hand and stays on the outside for the exchange. The **3rd runner** takes the baton on the right hand. **Runner 4** takes the baton on the left hand and stays on the outside of the lane when receiving. You are allowed to switch hands after

receiving the baton

Unsweep Technique

Down sweep Technique

Push- Pass Technique



Tier 3 Vocabulary		
	Key word	Definition
1	sprinting	To run as fast as you can over a short distance. The aim is to finish in the quickest time.
2	shot put	A sports competition in which a heavy metal ball is thrown from the shoulder as far as possible.
3	discus	A heavy plate-shaped object that is thrown as part of a sporting event.
4	javelin	A long stick with a pointed end that is thrown as part of a sporting event.
5	high jump	A sport which competitors try to jump over a bar support on two poles. The height of the bar is gradually increased.
6	track event	A sports event in which athletes compete with each other by running a race on a specially prepared circular path.
7	field event	A sports event in which athletes compete one after the other in a jump or throwing event.
8	cardiovascular endurance	The ability of the heart, lungs and blood vessels to get oxygen to the muscles and the bodies ability to use oxygen.
9	aerobic exercise	Using oxygen to produce energy during low-intensity, long-duration exercise.
10	anaerobic exercise	Not using oxygen to produce energy during high-intensity, short duration exercise.

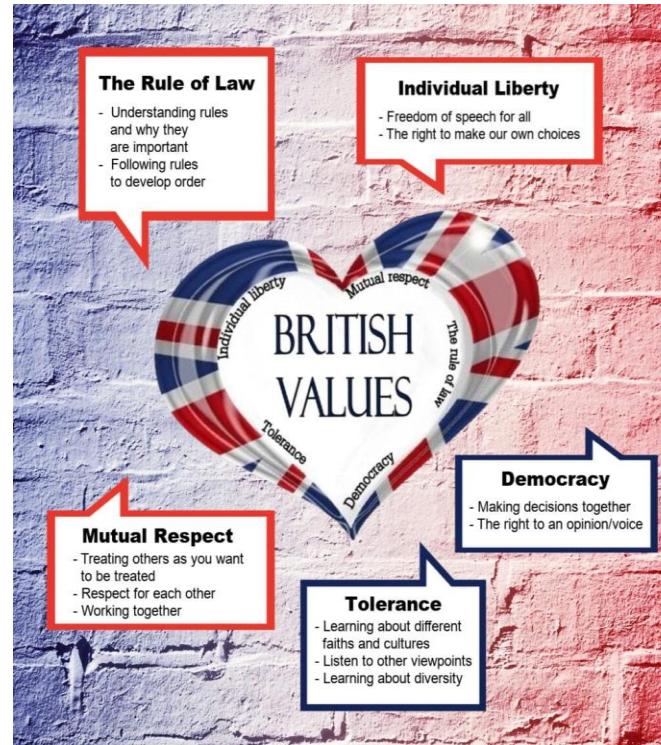
Notes

[illegible]

Whilst 'Britishness' is reflected in our food, recreation, family life, religion and art, etc, it is probably no where more poignantly present than in our values; which inform the basis of much of our British culture.



Watch this to find out
more about British
Values



childline

ONLINE, ON THE PHONE, ANYTIME
childline.org.uk | 0800 1111

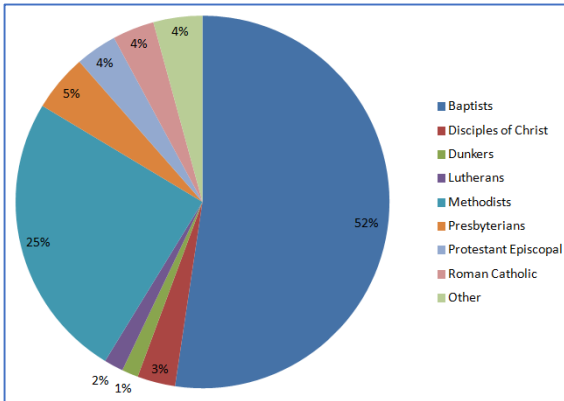
Tier 3 Vocabulary		
Key word		Definition
1	individual liberty	Individual liberty means each of us having the freedom to make our own choices and do what we want, within reason.
2	The rule of law	The rule of law is the framework that underpins open, fair and peaceful societies, where citizens and businesses can prosper.
3	democracy	Democracy is a form of government in which the people have the authority to deliberate and decide legislation, or to choose governing officials to do so.
4	mutual respect	The definition of mutual respect is to treat others the way you would like to be treated.
5	tolerance	Toleration is the allowing, permitting, or acceptance of an action, idea, object, or person which one dislikes or disagrees with.
6	parliament	In modern politics, and history, a parliament is a legislative body of government. Generally, a modern parliament has three functions: representing the electorate, making laws, and overseeing the government via hearings and inquiries.
7	human rights	Human rights are rights inherent to all human beings, regardless of race, sex, nationality, ethnicity, language, religion, or any other status.
8	racism	belief that certain races of people are by birth and nature superior to others.
9	diversity	The condition or fact of being different or varied.
10	discrimination	The act of making unjustified, prejudiced distinctions between people based on the groups, classes, or other categories to which they belong or are perceived to belong.
11	homophobia	Negative attitudes and feelings toward homosexuality or people who are identified or perceived as being lesbian, gay or bisexual.
12	gender equality	The state of equal ease of access to resources and opportunities regardless of gender.

Notes

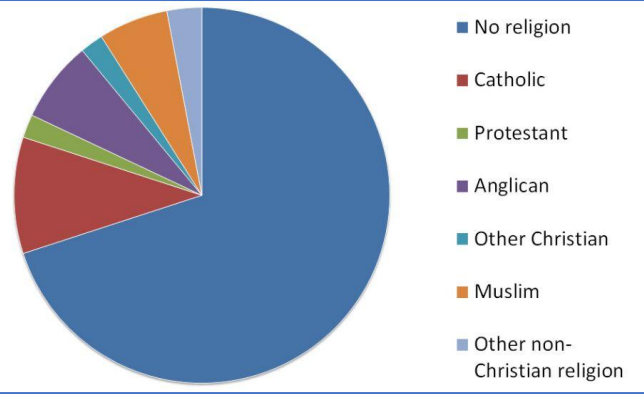
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Year 7 and 8 Knowledge Goals: Religion in Modern Britain

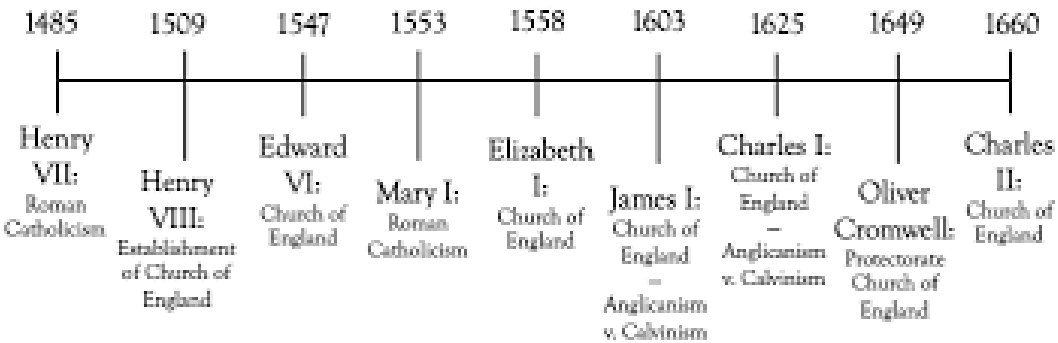
Religious Denominations in UK, 1906



Current Religious Denominations in UK



Social belonging is the **subjective** feeling of **inclusion** or **acceptance** into a group of people. This sense of community or **connectedness** in a social group is a basic human need that individuals must satisfy to maintain their identity, physical well-being, and mental health.



An **ideology** is a set of **opinions** or **beliefs** of a group or an individual. Very often ideology refers to a set of political beliefs or a set of ideas that characterise a particular culture. Capitalism, feminism and nationalism are all forms of ideologies.




As religion decreases people need something to believe in an anchor their identity in. **Nationalism** has provided grounding for many people and can give people a strong sense of identity. It can also help them to feel that they **belong**. Nationalism can be a positive thing that's brings a sense of **pride** and **community**, however, it can also be misused and create a sense of **separateness** and at worst, racism.

It was a significant factor in the outbreak of WWI, as many nations believed that they were entitled to self-rule and sought to expand their power and influence. This led to competition and **tensions** between nations.



Tier 2 Vocabulary		
Key word		Definition
1	self-esteem	Confidence in one’s own worth. Self-respect
2	belonging	To be included and accepted by a group
3	physiological	The physical body (includes humans, animals and plants)
4	ideology	A set of beliefs held by a social group
5	nationalism	Identification with one’s own nation and support for its interests
6	subjective	Based or influenced by one’s own feelings and thoughts
7	tension	Mental or emotional strain
8	opinion	View or judgement formed about something not necessarily based on facts or knowledge
9	pride	A feeling of pleasure or satisfaction from one’s own achievements or that of someone else.
10	self-actualisation	The fulfilment of one’s own talents and potential
11	inclusion	Being included by a group
12	denomination	A recognised branch of the Christian Church

Notes:

Quiz QR Code	Quiz Link
	Link

Balanced diet

To keep healthy, it is vital to eat a balanced diet. This means eating the right amount from different food groups. Too much may cause obesity and too little may cause malnutrition.

The World Health Organisation recommends getting at least half of your energy intake from carbohydrates and no more than 30% from fats. The organisation also recommends 400 grams of fruit and vegetables daily.

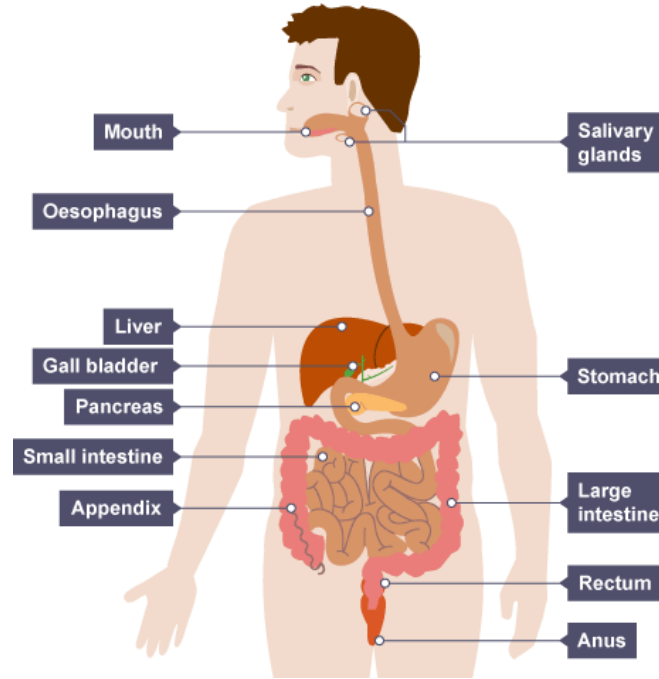
Carbohydrates provide energy. They are found in bread, potatoes, rice and pasta.

Lipids (fats and oils) provide energy. Lipid-rich foods include butter and chips.

Proteins provide materials to make new cells and to repair damaged tissues, such as muscles. Beans, eggs, fish, meat and milk are high in protein.

Vitamins are vital in many processes. For example, vitamin K helps blood to clot and vitamin C prevents illness. Fruit and vegetables are vitamin-rich.

There are 16 essential **minerals**. These include iron, used to transport oxygen in the blood, and calcium, used in making bones and teeth.

**Enzymes:**

Enzymes are protein molecules which act as catalysts to speed up reactions. They are not used-up in these reactions. Enzymes can be grouped into two types:

1. Those that break larger molecules apart (like digestive enzymes).
2. Those that join larger molecules together (like plants making glucose in photosynthesis).

Drugs:

Drugs can be used for medicinal purposes to control or treat diseases.

Some other drugs are recreational. Recreational drugs are legal, such as tobacco and alcohol. However, there are restrictions on who can buy them. Caffeine, found in coffee, is another recreational drug. Most other recreational drugs are illegal, and these include cannabis, ecstasy and heroin. Some medicines are misused and taken for recreational use, rather than for medical reasons. They become illegal under these circumstances.

Absorbing food and water:

The intestines have lots of tiny folds in them which create a large surface area for absorbing nutrients and water. In the small intestine there are also specialised cells called villi which have a tiny hair-like structure poking into the small intestine to absorb digested food.

**Pathogens:**

Diseases can be caused by harmful bacteria, viruses, fungi or protists. These organisms are called pathogens. They can be spread by droplets from coughs and sneezes, food prepared or stored incorrectly, direct physical contact, water or contact through bodily fluids such as blood.

Test yourself!



More
information



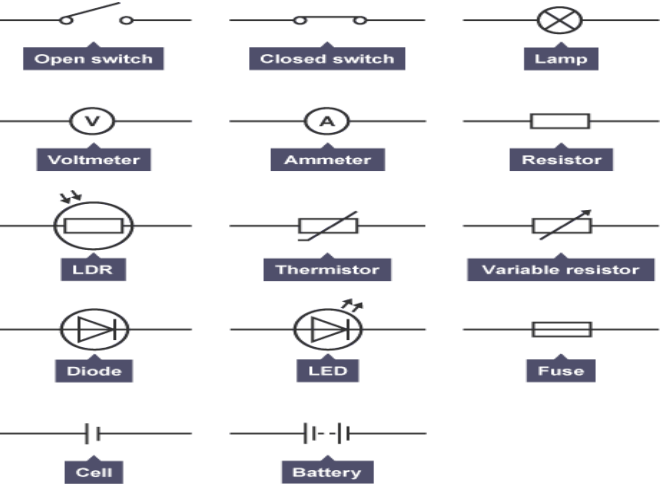
Tier 3 Vocabulary

	Key word	Definition
1	malnutrition	A serious health problem. It happens when people do not eat the right amounts of nutrients.
2	obesity	Medical term for being very overweight, owing to the excessive accumulation of body fat.
3	drug	A drug is a substance that has an effect on the body.
4	villi	A tiny folds on the surface of the small intestine, which increases the rate at which food can be absorbed into the blood stream.
5	enzyme	A type of protein which can increase the rate of a chemical reaction such as digestion and lower the amount of energy required for it.
6	adsorption	The process where digested food molecules pass through the wall of the small intestine into the blood stream.
7	digestion	The breaking down of food so it can be adsorbed into the body.
8	communicable diseases	Are those diseases which are infectious. This means they can be transferred from one organism to another.
9	non communicable	Are non infectious diseases and can not be transferred from one organism to another.
10	stimulant	Drugs that speed up the nervous system, often making reactions faster.
11	depressant	Drugs that slow down the nervous system, often making reactions slower.
12	addictive	Something that is addictive is habit-forming. It creates a dependency so that more of it is wanted.

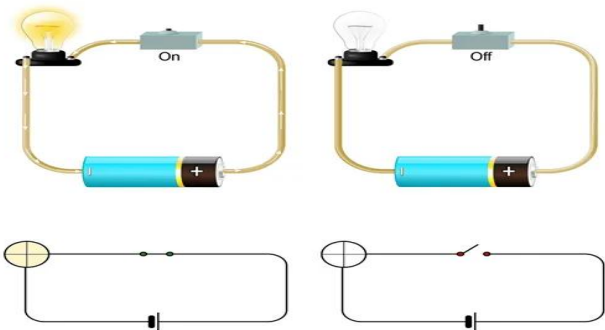
Notes

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Circuit symbols



Circuit diagrams



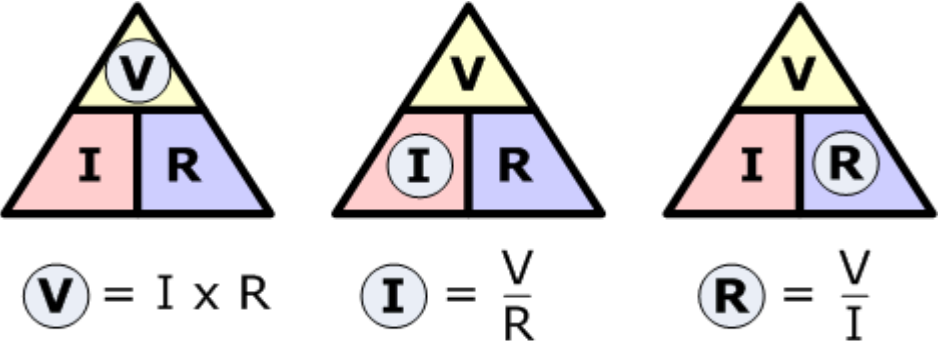
Diagrams should be drawn with a pencil and a ruler and using the symbols not pictures.

You can see from the diagram above that due to the switch being open the circuit is **incomplete**. We must have a **complete circuit** for the **current** to flow and the bulb to light up.

Current, potential difference and resistance

Current (I) is the flow of electrons (charges) around a complete circuit.
Potential difference (V) provided by a cell, battery or power pack and is what pushes these electrons round. It can also be called voltage.
Resistance (R) is anything which acts against the flow of the electrons. It is caused by them colliding with fixed ions inside the wires and components.


Potential difference = current x resistance



$V = I \times R$

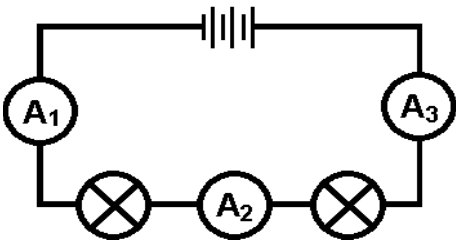
$I = \frac{V}{R}$

$R = \frac{V}{I}$

	Current	Potential difference	Resistance
Unit	Amps / A	Volts / V	Ohms / Ω
Measured with	Ammeter	Voltmeter	Voltage \div current
How is the equipment fitted in the circuit.	Fitted in series	Fitted in parallel	

Scan the QR code to watch a video on how to investigate how the length of a wire affects the resistance.

Series circuits

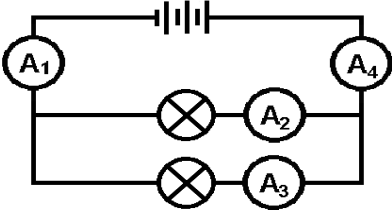


A **series** circuit is one where everything is connected one thing after the other, in one big loop. It means there is only one path for the electrons to flow.

As a result:

- Current is the same everywhere
- Potential difference is shared between the components
- Total resistance is the sum of all the resistors in the circuit.

Parallel circuits



A **parallel** circuit has more than one path for the electrons to follow and therefore:

- Current splits up into different paths. For the circuit above $A2 + A3 = A1$
- Potential difference of the supply is equal to the potential difference across each component
- Resistance decreases when a resistor is added in parallel

Check your understanding of the topic with this quiz on the QR code.



Spring Term: Tier 3 Vocabulary

	Key word	Definition
1	ammeter	Apparatus fitted in series, used to measure current in Amps.
2	current	Flow of electrons around a complete circuit, measured in Amps.
3	electrons	Negatively charged particles which can flow around a complete circuit when there is a potential difference.
4	fixed ions	Atoms which have lost their electrons. Electrons collide with these which causes resistance.
5	parallel	A circuit in which the electrons have more than one path to take.
6	power	The rate of energy transferred by an electrical circuit.
7	potential difference	The pushing of the battery, cell or powerpack on the electrons, causing them to flow. Measured in Volts.
8	resistance	Anything which acts against the current, measured in Ohms.
9	series	A circuit where there is only one path for the electrons to flow.
10	voltmeter	Apparatus fitted in parallel with a component, used to measure the potential difference across it in Volts.

Notes

[illegible]

Key Words:

Magnet: An object that attracts iron, cobalt and nickel

Attract: To move towards something

Repel: To move away from something

Magnetic force: The force exerted between magnets or a magnet and a magnetic material

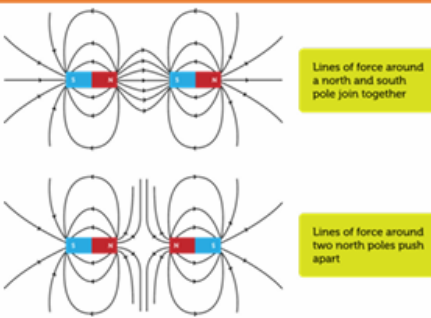
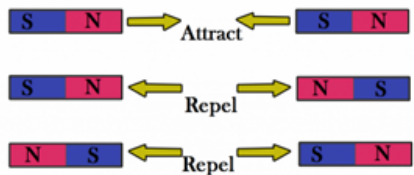
Magnetic pole: Magnets have a north and a south pole. Like poles repel but opposite poles attract.

Magnetic field: A region around a magnetic material or a moving electric charge within which the force of magnetism acts.

Core: The piece of iron forming the central inner portion of an electromagnet.

Permanent Magnet: A magnet that retains its magnetic properties in the absence of an inducing field or current.

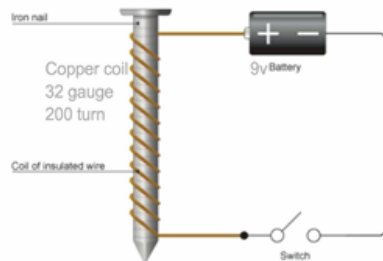
Electromagnet: A soft metal core made into a magnet by the passage of electric current through a coil surrounding.



We can pass an electrical current through a wire.
This creates a magnetic field. We call this an electromagnet

Making Electromagnets:

Use a power supply to provide an electrical current to the circuit. Run the current through a coil of metal wrapped around a piece of iron. When the current flows the coil will become magnetized. To turn the magnet off, turn the power supply off.

**Permanent Magnets**

Always magnetised

Made from a magnetic material

Constant strength of magnetism

Doesn't get hot

Not affected by power failure

Electromagnets

Magnetism can be turned on and off

Magnetism is created by passing current through a wire

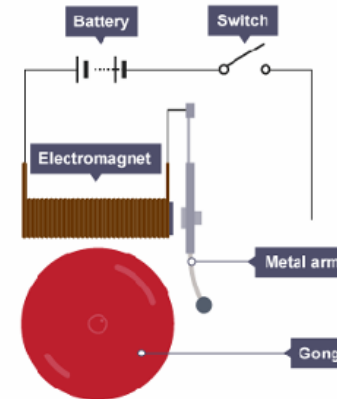
Strength of magnetism can be varied

Gets hot

Turns off if power fails

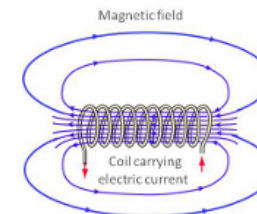
Electric Bells:

When off the metal arm is away from the gong of the bell. When the electromagnet is turned on it attracts the springy metal arm towards the gong. Here it hits the gong and makes a sound. This movement breaks the circuit and turns off the electromagnet. The arm moves away from the gong as it is not being attracted by the electromagnet. The circuit is reset and ready to go again



Electromagnets can be made stronger by:

- Increasing the number of coils in the wire
- Adding an iron core
- Increasing the current through the wire

**Notes**

Tier 2 Vocabulary

ablution	abrasion	access
acquire	adapt	adequate
advocate	aggressive	albeit
alleviate	alter	altitude
ameliorate	analogous	analyse
behind	benign	beverage
bewitch	brawl	budge
calamity	calculate	callous
capacity	cause	central
challenge	chant	chirp
chore	circulate	claim
clear	collaborate	collude
command	committee	companion
compare	complex	confer
debate	decisive	decompose
define	delineate	deny
deteriorate	detrimental	dimension
disagree	discover	direct
eccentric	ecstasy	eloquent
emerge	emphasis	employ
encounter	epic	epitome
era	escalate	establish
evaluate	excavate	explore
farce	ferocious	flaw
flighty	formidable	function
ginormous	grapple	grizzly
hamper	harmful	harness
hierarchy	hitch	honour
hybrid	hypothesis	hysteria
identical	identify	ignorance
illusion	illustrate	immense

impeccable	imperative	impression
inevitable	innate	intense
interact	intercept	irreversible
jaunt	jubilant	justify
legacy	liberal	liberate
malicious	manipulate	match
measure	menace	meteoric
migrate	misconstrue	mitigate
native	network	notation
notice	notion	numeral
objective	observe	occupy
ointment	opaque	opponent
overall	overstate	overthrow
pallid	parallel	partition
persevere	persuade	pigment
pivot	pledge	ponder
pose	precedent	prepare
presume	previous	principal
radiant	raucous	ravage
rearrange	reckless	recline
refine	reflect	region
rejoice	relate	remote
replace	request	require
revise	rewrite	rhythm
salvation	scheme	sculpt
shift	shrewd	significant
slither	solar	sparse
specify	stability	state
supreme	surge	synonymous
tamper	technique	teeming
tentative	testament	transform

treaty	trivial	troublesome
underestimate	unscathed	update
validity	vanquish	verbose
verify	versatile	version
vibrant	victor	victory
virtuous	welfare	zealous

A blank graphic organizer template for a word study. The template is divided into four quadrants by a central box. The quadrants are labeled as follows:

- Top Left:** definition
- Top Right:** synonyms
- Bottom Left:** sentence
- Bottom Right:** antonyms

The central box is labeled **word**. Each quadrant contains several horizontal lines for writing.

Synonyms are words with the same or similar meaning:

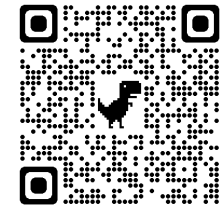
- words such as happy, cheerful and merry.
- words such as sad, miserable and heartbroken.

Antonyms are words with opposite meanings:

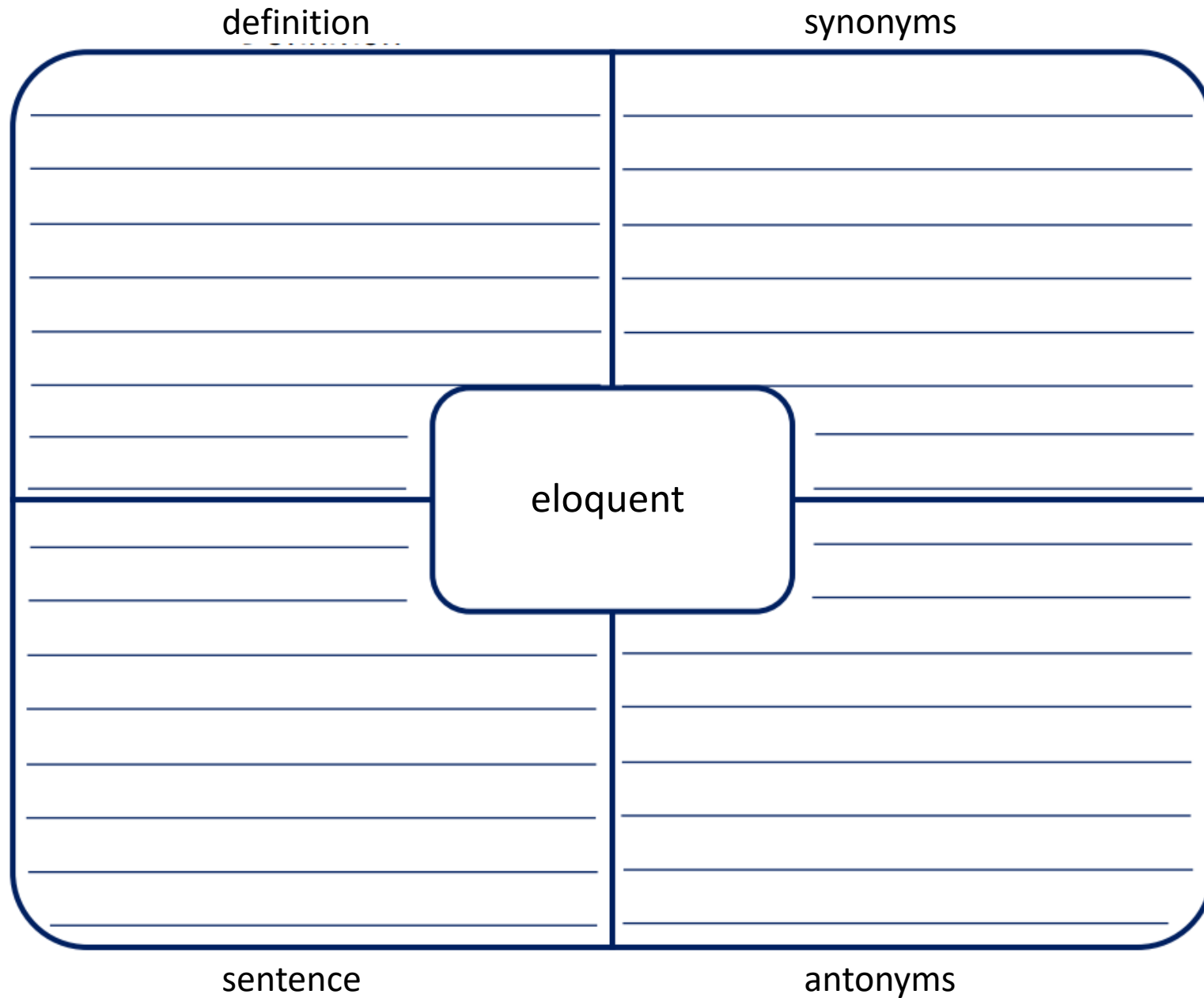
- words such as angry and peaceful.
- words such as funny and serious.

You can use a **thesaurus** to find **synonyms** and **antonyms** for words.

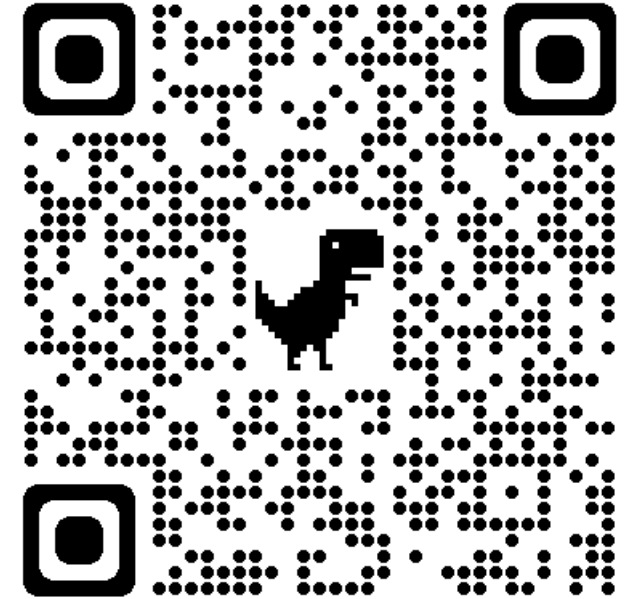
Scan to view thesaurus

[click to view thesaurus](#)

Have a go at creating a Frayer Model for each of the 6 tier 2 words from this term (blank templates are at the back of the booklet for you to complete this activity).



Complete a Frayer Model for the word **eloquent**.

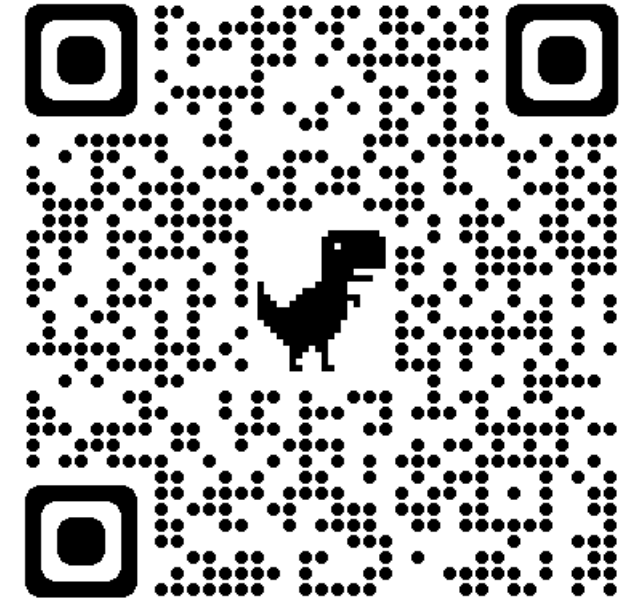


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[illegible]

Complete a Frayer Model for the word **flighty**.



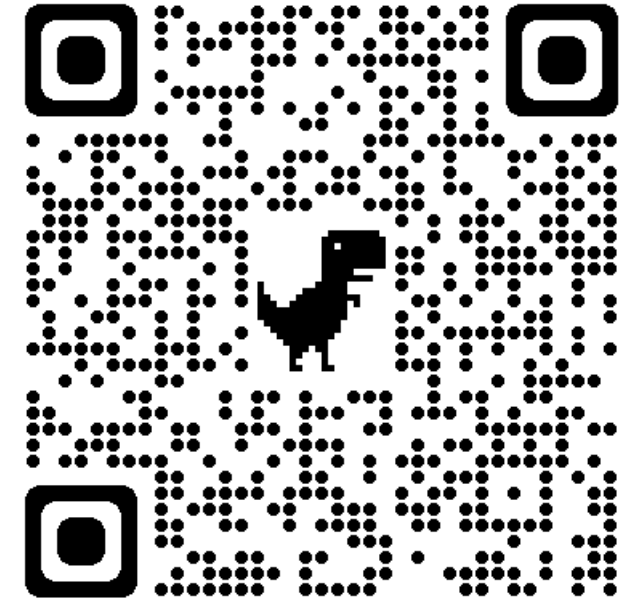
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A blank graphic organizer for the word "hysteria". The central box contains the word "hysteria". Four surrounding boxes are labeled: "definition" (top), "synonyms" (right), "sentence" (bottom), and "antonyms" (left). Each box has lined space for writing.

```
graph TD; D[definition] --- C(hysteria); S[synonyms] --- C; AN[antonyms] --- C; Sen[sentence] --- C;
```

Complete a Frayer Model for the word **hysteria**.

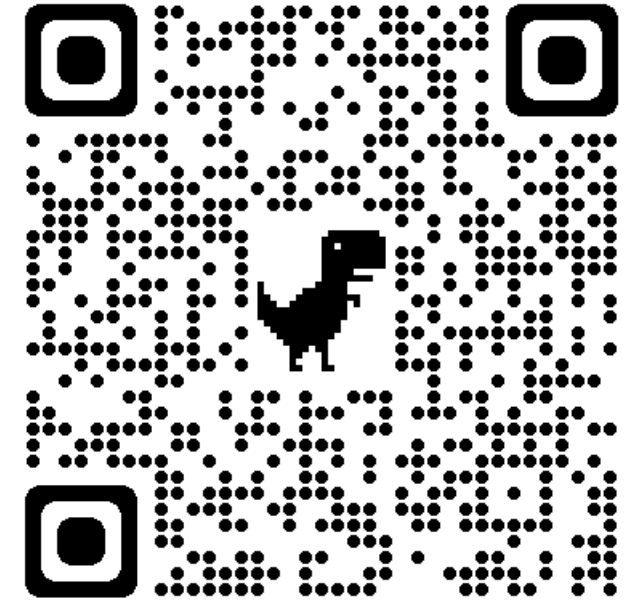


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Complete a Frayer Model for the word **overstate**.

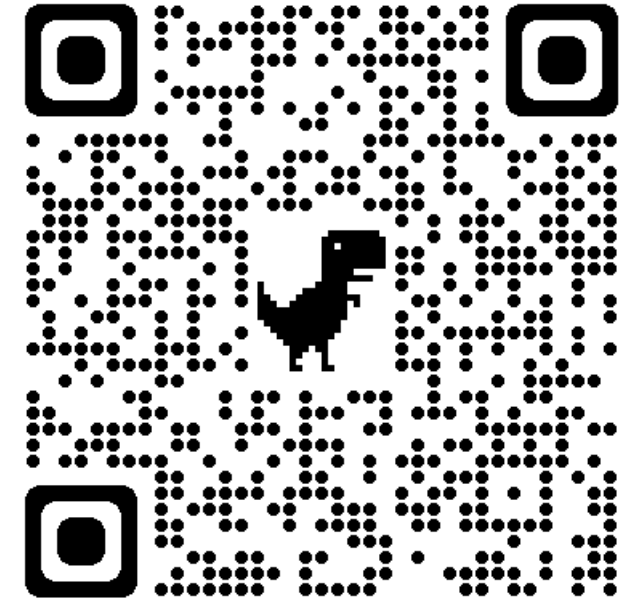


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Complete a Frayer Model for the word **shrewd**.

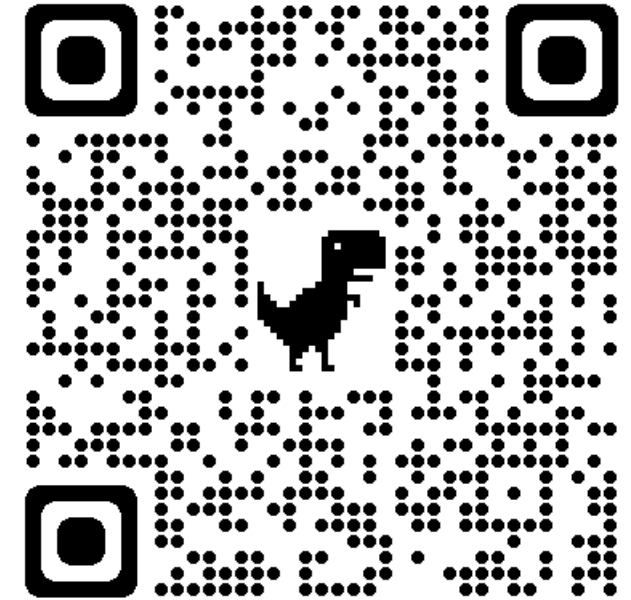


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[illegible]

Complete a Frayer Model for the word **versatile**.



Scan to view thesaurus

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