

Knowledge Goals Homework Booklet 3 (Spring Term 2023)

Year 7 and 8

Name: _____



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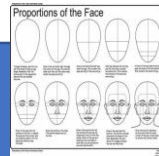
Suggested Homework Schedule
(30 minutes of independent study per subject each week)

	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.

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

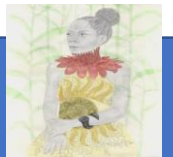
Parent
information
on
knowledge
retrieval:



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.

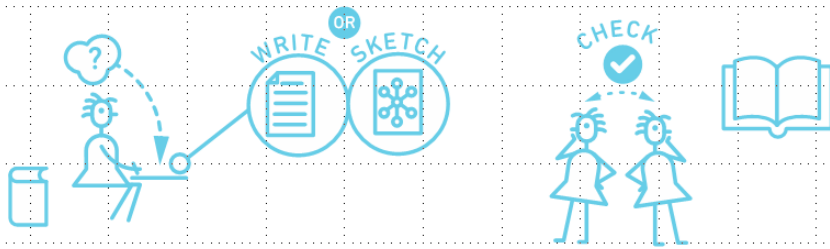
Your teacher may choose to set you additional homework.

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.

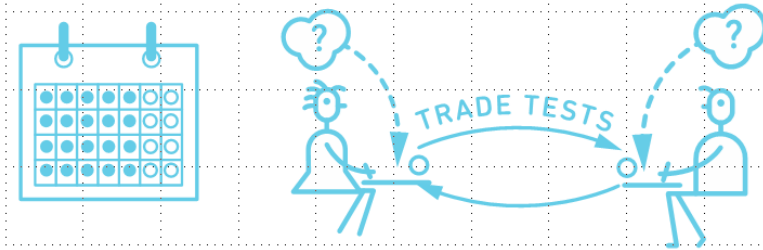
HOW TO DO IT

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.



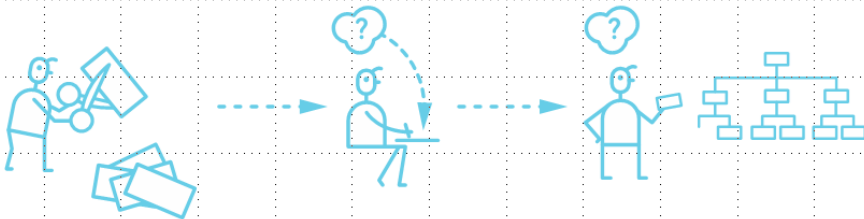
HOW TO DO IT

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.



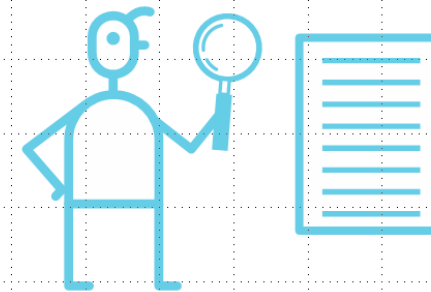
HOW TO DO IT

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.



Literacy: Tier 2 Vocabulary

Tier 2 Vocabulary		
	Key word	Definition
1	Adjacent	Next to or adjoining something else.
2	Benign	1. Gentle and kind. 2. (of a disease) not harmful in effect.
3	Decipher	To convert or change something into normal language to be able to understand something.
4	Facilitate	Take (an action or process) easy or easier.
5	Pivotal	Of crucial importance to the success of something else; fixed on, or as if on a pivot.
6	Voracious	Wanting or eating large quantities of food; doing something with lots of enthusiasm.

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.

Literacy: Tier 2 Vocabulary

Tier 2 Vocabulary		
	Key word	Definition
7	Subsequent	Coming after something in turn; following something.
8	Era	A long and distinct period of history.
9	Analogy	A comparison between one thing and another, typically for the purpose of explanation or clarification.
10	Eccentric	Unconventional or slightly strange.
11	Imperative	1. Of vital importance; crucial 2. Giving a command
12	Insinuate	Suggest or hint (something bad) in an indirect and unpleasant way.

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.

Proportions of the face – General rules

When drawing a portrait, understanding the basic proportions of the face can be crucial for achieving a realistic and well-balanced representation. Keep in mind that these proportions can vary among individuals, and there is room for artistic interpretation. However, the following are general guidelines for the proportions of a face in a traditional, realistic portrait:

Eyes:

Typically, the distance between the eyes is approximately one eye's width. The width of one eye can also be used to measure the space between the eyes.

Nose:

The nose is often centred between the eyes. Its length is roughly equal to the distance from the eyes or slightly less.

Mouth:

The mouth is usually located halfway between the bottom of the nose and the chin. Its width is often equivalent to the distance between the centres of the eyes.

Ears:

The top of the ears align with the eyebrows, and the bottom of the ears align with the bottom of the nose.

Hairline and Forehead:

The hairline typically starts above the eyebrows. The forehead extends upward from the eyebrows to the hairline.

Chin:

The bottom of the chin is usually about halfway between the bottom of the lower lip and the bottom of the nose.

Face Length:

The overall face length, from the hairline to the chin, is often divided into thirds: hairline to eyebrows, eyebrows to bottom of the nose, and bottom of the nose to the chin.

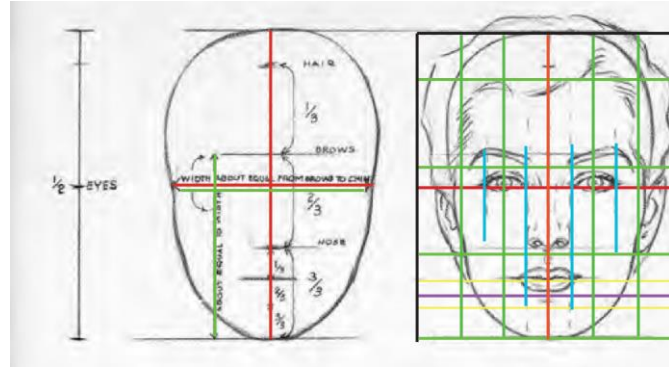
Jawline:

The jawline is typically wider than the forehead and narrows toward the chin.

Remember, these are general guidelines, and there is a considerable range of natural variation. Additionally, individual features may vary, and proportions can be adjusted to capture the unique characteristics of a person's face. Observational skills and practice are essential for honing your ability to capture accurate facial proportions in portrait drawing.

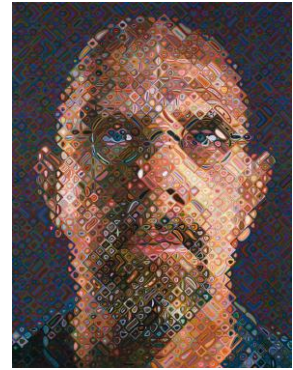
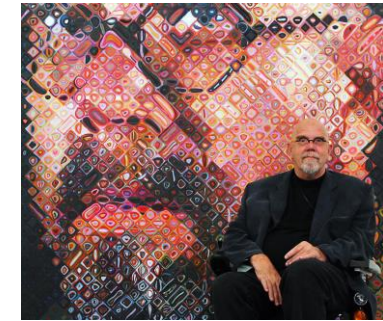
[Chuck Close Gallery](#)

Proportions of the face, Visual guide.



Artist: Chuck Close

[Getting to Know - Chuck Close – YouTube](#)



You Tube tutorials

[How to Draw a Face for Kids – YouTube](#)

[how to draw faces, eyes, nose, mouth | step by step tutorial – YouTube](#)

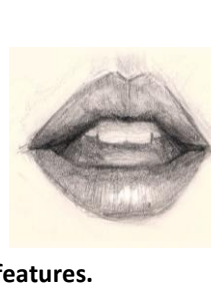
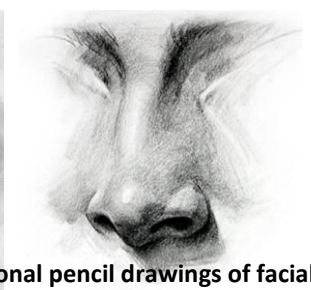
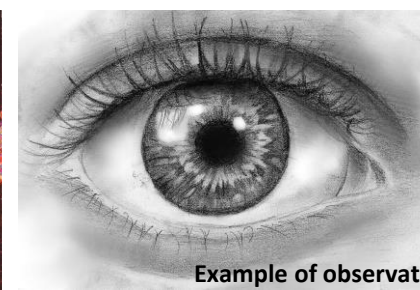
[How to Draw a Nose – YouTube](#)

[How to Draw Eyes – YouTube](#)

[How to Draw a Mouth – YouTube](#)

[How to use the Grid Method with a Drawing of Chuck Close as an Example - YouTube](#)

Example of a grid portrait.



Example of observational pencil drawings of facial features.

Key Vocabulary

1. **Portrait:** A representation of a person, usually focusing on the face and its expression.
2. **Proportion:** The relationship of one part of a composition to another in terms of size, quantity, or degree.
3. **Composition:** The arrangement of visual elements in a work of art, including the placement and balance of objects or subjects.
4. **Symmetry:** Balanced arrangement of parts on either side of a central point or axis.
5. **Asymmetry:** Lack of symmetry or equal balance between elements.
6. **Facial Features:** Elements such as eyes, nose, mouth, ears, and eyebrows that make up the face.
7. **Shading:** The use of light and dark areas to create the illusion of form and depth.
8. **Highlight:** The brightest area in an artwork, often indicating where light is directly hitting the subject.
9. **Shadow:** The dark areas in an artwork created by the blocking of light.
10. **Profile:** A side view of the face or a drawing that represents this view.
11. **Foreground:** The part of a picture plane that appears closest to the viewer.
12. **Background:** The part of a picture plane that appears farthest from the viewer.
13. **Expression:** The depiction of emotion or mood in the face.
14. **Self-Portrait:** A portrait an artist creates of themselves.
15. **Grid:** In art and design, a grid is a system of intersecting lines used to guide the placement of elements within a composition. It helps maintain a sense of structure and alignment. Grids are commonly used in graphic design, web design, and layout design to organize content.

QR code



Link to quiz

[Chuck Close Portrait Quiz Link](#)

Famous Portrait artists:

There have been many famous portrait artists throughout history who have made significant contributions to the field of portraiture. Here are some notable portrait artists from various time periods:

Leonardo da Vinci (1452–1519): Leonardo da Vinci, the Renaissance polymath, created some of the most iconic and enigmatic portraits, including the famous "Mona Lisa."

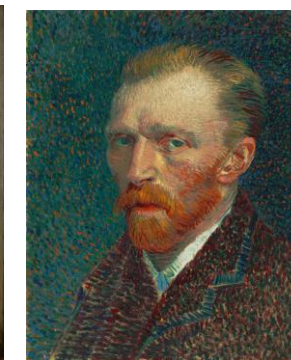
John Singer Sargent (1856–1925): An American expatriate artist, Sargent was one of the leading portrait painters of the late 19th and early 20th centuries. His portraits captured the personalities of the subjects with virtuosity.

Édouard Manet (1832–1883): A French modernist painter, Manet's portraits often challenged traditional conventions. His portrait of "Olympia" is particularly famous.

Vincent van Gogh (1853–1890): Although best known for his post-impressionist landscapes, Van Gogh created many compelling self-portraits that are celebrated for their emotional intensity.

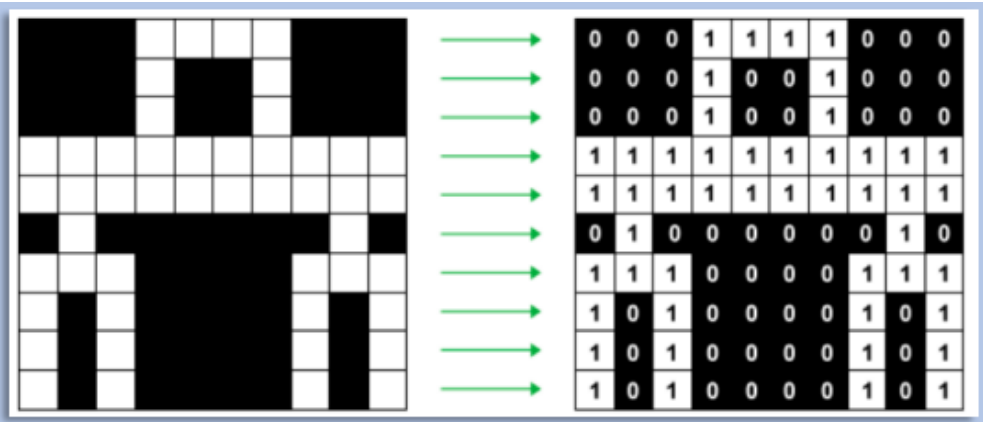
Frida Kahlo (1907–1954): A Mexican artist known for her self-portraits, Kahlo's paintings often depicted her physical and emotional pain. "Self-Portrait with Thorn Necklace and Hummingbird" is a notable example.

Chuck Close (1940–2021): A contemporary American artist, Close is famous for his large-scale portraits often using a grid format. Despite facing physical challenges, he created intricate and detailed works.



Binary Value	Decimal Representation				Decimal Value
	8	4	2	1	
0 0 0 0	0 + 0 + 0 + 0				0
0 0 0 1	0 + 0 + 0 + 1				1
0 0 1 0	0 + 0 + 2 + 0				2
0 0 1 1	0 + 0 + 2 + 1				3
0 1 0 0	0 + 4 + 0 + 0				4
0 1 0 1	0 + 4 + 0 + 1				5
0 1 1 0	0 + 4 + 2 + 0				6
0 1 1 1	0 + 4 + 2 + 1				7
1 0 0 0	8 + 0 + 0 + 0				8
1 0 0 1	8 + 0 + 0 + 1				9
1 0 1 0	8 + 0 + 2 + 0				10

Binary is a number system that only uses two digits: 1 and 0. All information that is processed by a computer is in the form of a sequence of 1s and 0s. Therefore, all data that we want a computer to process needs to be converted into binary.



Computer manufacturers agreed to use one code called the ASCII (American Standard Code for Information Interchange). ASCII is an 8-bit code. That is, it uses eight bits to represent **a letter or a punctuation mark**.

Dec	Binary	Char	Dec	Binary	Char	Dec	Binary
033	00100001	A	065	01000001	a	097	01100001
034	00100010	B	066	01000010	b	098	01100010
035	00100011	C	067	01000011	c	099	01100011

Vector Graphics – simple digital images made up of paths and shapes can be easily edited.

Used to create graphics that need a large format.

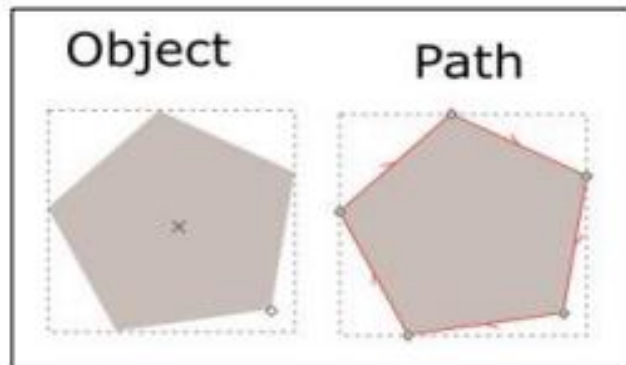
Vector graphic file sizes are usually small.

Scalable which means you can change their size without losing quality.

Bitmap images (raster graphics) – complex images made up of small individual squares of colour called pixels which can be individually edited. Used for real photographs.

File sizes are large as information about each pixel is stored. Bitmap graphics lose quality when they are resized.

The term 'path' is used because lines and shapes have a start and end point with curves and angles along the way.




Comparison	Vector Graphic	Bitmap Graphic
Consist of	Objects	Coloured pixels
File size	Small	Large
Appearance	Simple	Detailed
File format	.svg .wmp	.bmp .jpg .gif
Scalable	Quality same	Quality lost
Use	Logos, icons & illustrations	Real images & photographs

Image Resolution

Pixel dimensions	The density of pixels in an image. Normally stated as the number pixels on the horizontal and vertical axis of an image, for example HD TV is 1280 pixels wide and 720 high (1280 x 720 = 921,600 pixels = 0.92 megapixels).
DPI resolution	Dots Per Inch. How many pixels occur across one inch (2.54 cm) DPI usually refers to printed media.
PPI resolution	Pixels Per Inch. How many pixels occur across one inch (2.54 cm) DPI usually refers to screen media.
Typical resolutions	Print media typically uses 300 dpi Web media is typically 72 ppi

Tier 3 Vocabulary		
Key word		Definition
1	Bit (b)	The smallest unit of data. 0 or 1.
2	Nibble (N)	4 bits.
3	Byte (B)	8 bits (note the difference between b and B).
4	Binary number	A number system that contains two symbols, 0 and 1. Also known as base 2.
5	Data	Units of information. In computing there can be different data types, including integers, characters and Boolean. Data is often acted on by instructions.
6	Denary (also known as decimal)	The number system you use. It contains 10 unique digits 0 to 9. Also known as decimal or base 10.
7	Multiplier (also known as place value)	The value of the place, or position, of a digit in a number.
8	Bitmap	A representation in which each item corresponds to one or more bits of information, especially the information used to control the display of a computer screen.
9	Logo	A symbol or other small design adopted by an organization to identify its products, uniform, vehicles, etc.
10	Illustration	Digital illustration or computer illustration is the use of digital tools to produce images under the direct manipulation of the artist, usually through a pointing device such as a graphics tablet or, less commonly, a mouse.
11	Icon	An icon is a graphic image, a small picture or object that represents a file, program, web page, or command.

Notes:

Quiz QR Code	Quiz Link
	Quiz Link

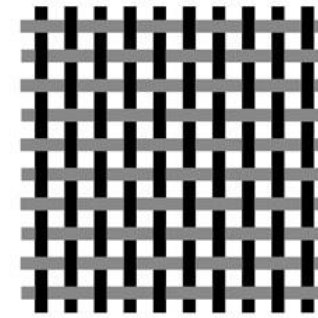
Kawaii Storage - Textiles



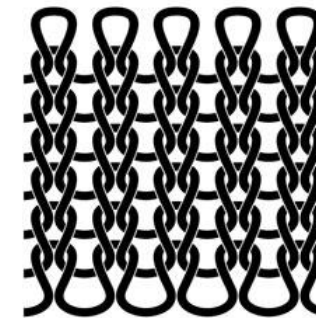
Kawaii is the culture of cuteness in Japan



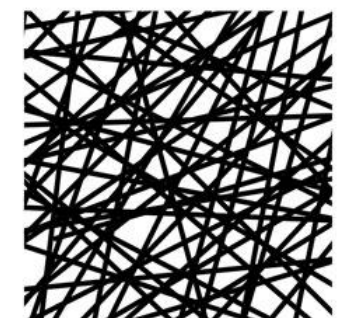
Natural and man made fibres:



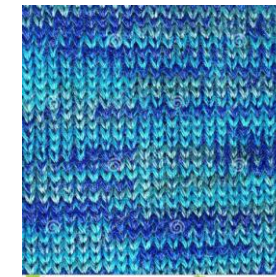
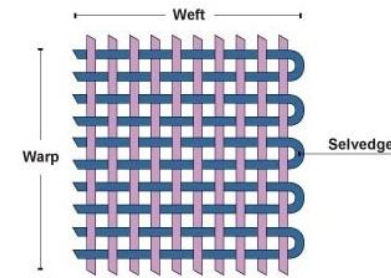
woven



knit



non-woven



Dye sublimation: It creates vibrant, long-lasting, and water-proof images on various materials




Images can be scanned in and permanently printed onto fabric using a heat press



Tier 3 Vocabulary		
Key word		Definition
1	Natural	Existing in or derived from nature; not made or caused by humankind.
2	Manmade	Made or caused by human beings (as opposed to occurring or being made naturally)
3	Weave	To interlace (threads, yarns, strips, fibrous material, etc.) so as to form a fabric or material.
4	Knitted	Knitting. to make (a garment, fabric, etc.) by interlocking loops of one or more yarns either by hand with knitting needles or by machine.
5	Non Woven	Nonwoven fabric is a fabric-like material made from staple fibre (short) and long fibres (continuous long), bonded together.
6	Synthetic	Compounds formed through a chemical process by human agency, as opposed to those of natural origin.
7	Dye Sublimation	To convert dye by heat into a vapour, which on cooling condenses again to solid form, without apparent liquefaction.
8	Warp	Warp is the long yarn that runs vertically up and down the roll of fabric.
9	Weft	Weft is the yarn that passes horizontally across the fabric roll
10	Selvedge	Edge of a piece of fabric which keeps it from unravelling and fraying.

Notes:

Quiz QR Code	Quiz Link
	Quiz Link

Skills & Techniques

1. A drama **technique** is a tool we use make our acting more interesting and engaging to an audience. For example, a flashback or narration.
2. A drama **skill** is a way of communicating verbal and non-verbal communication skills to portray a character and their ideas and/or feelings. For example, vocal tone or facial expressions.

Using a Stimulus

When we devise (create) a drama piece, we often use different resources to help get us started. This is called using a **stimulus**.

Examples of stimuli includes;

- Script extract
- Photos
- A piece of music
- A poem
- A performance brief
- A storyline

Devising

Devising means to **create something from scratch**. This is when we create our own drama pieces, using our own unique ideas, as a group or as an individual.

Drama Techniques




Narration
Direct address
Freeze frame
Angel vs Devil
Flashback

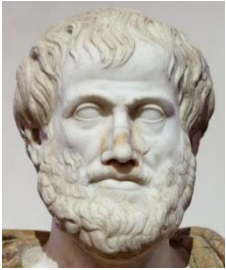


Tier 3 Vocabulary		
Key word		Definition
1	Vocal projection	The strength of speaking or singing whereby the voice is used powerfully and clearly.
2	Facial expressions	A way to show emotions and feelings using your face.
3	Body language	A way to show emotions and feelings using your body.
4	Gait	The way you walk.
5	Stance	The way you stand using your legs and feet.
6	Posture	The way you stand using your body.
7	Devising	Creating something from scratch.
8	Stimulus	A starting point.
9	Characterisation	Becoming a fictional character.

Notes:

Quiz QR Code	Quiz Link
	QUIZ LINK

Year 7 and 8 Knowledge Goals: English 'The Art of Rhetoric: Speeches' (E3 Spring Term)



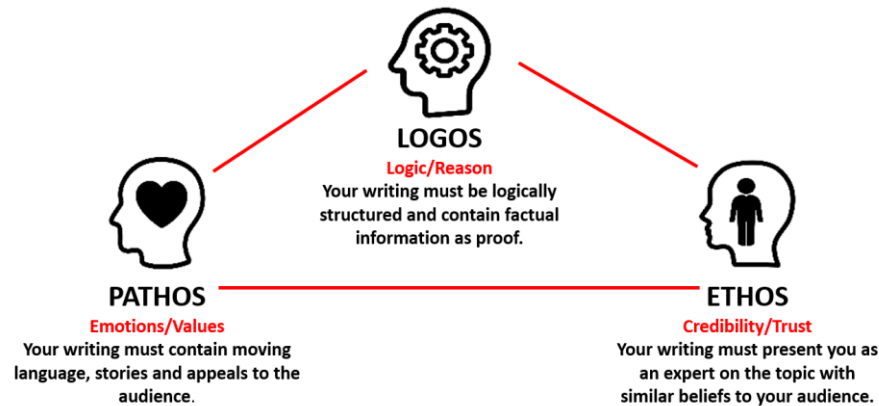
Aristotle (384 BCE – 322 BCE)

Ancient Greek philosopher and polymath. Tutor to Alexander the Great. His writings cover a broad range of subjects spanning the natural sciences, philosophy, linguistics, economics, politics, psychology and the arts.



Cicero (106 BCE- 43 BCE)

Roman statesman, lawyer, scholar, philosopher and writer. Cicero was educated in Rome and in Greece. He is considered one of Rome's greatest orators and prose stylists.



THE ARISTOTELIAN TRIAD

Aristotle's Five Parts of Rhetoric

Invention	Planning – ethos/logos/pathos.
Arrangement	The structure of the speech.
Style	How you express yourself.
Memory	Making your speech memorable.
Delivery	Performing your speech.

Cicero's Six Part Rhetorical Arrangement

Exordium	Introducing yourself and establishing credibility (ethos).
Narratio	Setting out the facts (logos).
Divisio	Setting out differences.
Proof	Supporting arguments (logos).
Refutation	Refuting opponents' arguments .
Peroration	Grand finale and final flourish (pathos).



Winston Churchill (1940)

Biography

<https://www.youtube.com/watch?v=Wj49dQFuJ8o>

Link to Speech

<https://www.youtube.com/watch?v=KaMkA8Ab3qU>

Context to Speech

https://www.youtube.com/watch?v=v3I_-5njbkl



Nelson Mandela (1964)

Biography

<https://www.youtube.com/watch?v=rjLizIl9kss>

Link to Speech

<https://www.youtube.com/watch?v=gQvlnWELHM>

What is Apartheid?

<https://www.youtube.com/watch?v=XA7oQXrPaOA&t=22s>



Emma Watson (2014)

What is Gender Equality?

<https://www.youtube.com/watch?v=vz7IUD0YvXk>

HeForShe Campaign

<https://www.youtube.com/watch?v=2Wm4U7kzKD4>

Link to Speech

<https://www.youtube.com/watch?v=gkjW9PZBRfk>



Greta Thunberg (2019)

Biography

<https://www.youtube.com/watch?v=WORnPLZE5CA>

School Strike for Climate

https://www.youtube.com/watch?v=1cXgCR_dAzA

Link to Speech

<https://www.youtube.com/watch?v=M7dVF9xylaw>

What makes a great speech?

- ✓ **Fluent** – It flows easily and at a good pace, without hesitations, linguistic errors, repetitions, or uncertainty in the use of vocabulary, grammar and punctuation.
- ✓ **Personal** – It expresses, or appears to express, the convictions of the speaker, whose personality comes across in the choice of language.
- ✓ **Appropriate** – It suits the situation the speaker is in, or at least it's an understandable reaction to it.
- ✓ **Heightened** – It displays features of artistry that go beyond the linguistic norms we encounter in everyday informal conversation.
- ✓ **Clear** – It uses words that are known to the listeners, and puts them into sentences in a way that is easy to understand.
- ✓ **Memorable** – It contains elements that stick in the mind so that if asked, 'what did X say?' it's possible for a listener to repeat tiny bits of it.
- ✓ **Reactive** – it shows awareness of the interest levels and listening abilities of the audience, and responds or adapts to any feedback.

Sentence starters that work:

Exordium – introduce yourself; form a connection with the audience, perhaps using an anecdote

- It wasn't long ago when...
- Imagine a world where...
- I'm sure you agree that it's a sad fact that...
- How many of you would rather/wish/believe that/dislike...
- There was a time when...
- How many of us can honestly say that...
- There was once a time when... but now...

Ethos – making your viewpoint and purpose clear; make yourself sound credible

- It seems to me that...
- It strikes me that...
- It is obvious that...
- Despite my young age, I can assure you that...
- As a teenager, I have first-hand experience of...
- You may think that I know very little of..., but I assure you...
- I am convinced that...
- There can be no doubt that...
- I have had first-hand experience of... and it has taught me...

Logos – use evidence to sound logical and to give your view gravitas

- Ultimately, evidence suggests that...
- I would draw your attention to...
- The evidence is undeniable: ...
- We only need to look at recent headlines to know that...
- A recent study concluded that...
- We simply cannot argue with the evidence: ...

Pathos – make your audience feel something, perhaps using emotive language

- If we don't act...
- Who of us would condone such a practice? Surely not you!
- As you sit there, consider this: ...
- Don't just sit there. Do something...
- How would it feel to know that...
- Why not choose to do something incredible? Choose to...
- __, __, _: this is the future if we don't choose to make a difference...
- Most worrying of all, ...
- How long can we sit back and accept...
- Our generation is the future... Let's make it happen ...
- Terrifying/clever/the only way forward, don't you agree?

Closing – conclude your piece, perhaps with a cyclical structure (linking back to your opening)

- Finally,
- I want to leave you with this parting thought: ...
- If there's one thing you take from today, let it be this: ...
- Remember I told you about...? Well, ...

Year 7 and 8 Knowledge Goals: English 'The Art of Rhetoric: Speeches' (E3 Spring Term)

Tier 3 Vocabulary

Key Word		Definition
1	Rhetoric	The art of persuasion.
2	Ethos	Being credible/believable/trustworthy in persuasion.
3	Logos	Being logical in persuasion.
4	Pathos	Making emotional appeals in persuasion.
5	Alliteration	Repetition of the same consonant sound.
6	Anaphora	Repetition of sentence openers.
7	Anecdote	A short, personal (and perhaps funny) story.

Tier 3 Vocabulary

Key Word		Definition
8	Antithesis	A direct opposite or contrast.
9	Direct address	Using personal pronouns to engage your audience directly.
10	Emotive language	Using personal pronouns to engage your audience directly.
11	Hyperbole	Exaggerating for persuasive effect.
12	Rhetorical question	Posing a question which needs no answer or answers itself to engage an audience.
13	Triadic structure	When words, phrases, clauses or sentences come in groups of three.
14	Counterargument	An argument or set of reasons put forward to oppose an idea or theory developed in another argument.

Year 7 and 8 Knowledge Goals: English 'The Art of Rhetoric: Speeches' (Spring Term)

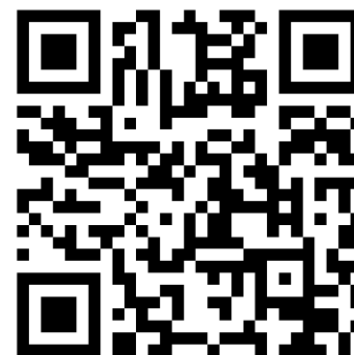
Tier 2 Vocabulary

	Key word	Definition
1	Menace	A danger, threat, risk.
2	Odious	Extremely unpleasant or repulsive.
3	Subjugated	To conquer, vanquish, defeat.
4	Liberation	To set free or release.
5	confined	Restricted, limited, cramped.
6	Domination	The exercise of power or influence over someone or something.
7	Enfranchisement	The giving of a right or privilege.
8	Cherished	To hold something dear.
9	galvanize	Shock or excite (someone) into taking action.
10	Advocate	A person who publicly supports or recommends a particular cause or policy.

Tier 2 Vocabulary

	Key word	Definition
11	Distorted	Pulled or twisted out of shape; giving a false impression.
12	Unprecedented	Never done or known before.
13	Irreversible	Not able to be undone or altered.
14	Activism	The policy or action of using vigorous campaigning to bring about political or social change.

QUIZ QR CODE



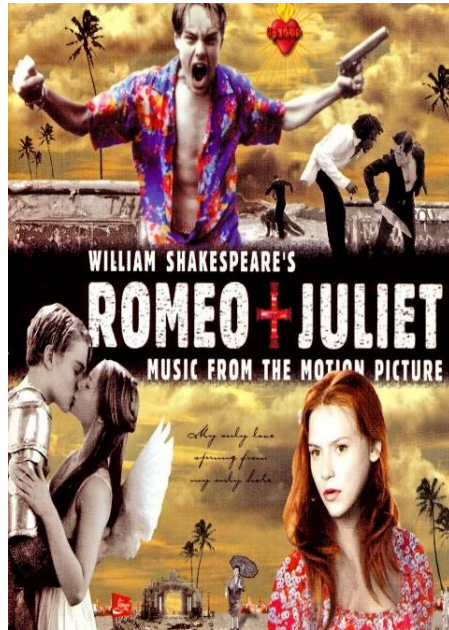
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Year 7 and 8 Knowledge Goals: English 'Romeo and Juliet' (Spring Term)

Character	Description
Romeo Montague	The male protagonist, a young man, a Montague, who falls in love with Juliet
Juliet Capulet	The female protagonist, a young woman from the Capulet family, who falls in love with Romeo
Mercutio	The female protagonist, a young woman from the Capulet family, who falls in love with Romeo
Benvolio Montague	Romeo's cousin and friend, known for his peaceful nature. He tries to prevent conflicts.
Tybalt Capulet	Juliet's cousin, known for his hot temper and aggressive behaviour
Nurse	Juliet's faithful and humorous nurse, who has raised her since infancy.
Friar Laurence	A Franciscan friar who plays a crucial role in Romeo and Juliet's love story. He helps them secretly marry and provides advice.
Lord Capulet	Juliet's father, who wants to see her married to Paris but becomes increasingly frustrated with her refusal and disobedience.
Lady Capulet	Juliet's mother, at first distant towards Juliet but is later devastated by her daughter's death.
Lord Montague	Romeo's father, who is concerned about his son's seeming depressions.
Lady Montague	Romeo's mother, who dies of grief after Romeo is banished from Verona
Prince Escalus	The ruler of the city of Verona, who tries to maintain peace in the city

Year 7 and 8 Knowledge Goals: English 'Romeo and Juliet' (Spring Term)



Themes
Honour
Love
Fate vs Free Will
Violence
Conflict
Family

Dramatic Devices in Romeo and Juliet		Features of a Tragedy in Romeo and Juliet	
Dramatic Irony	Mercutio and Benvolio think Romeo is still pining over Rosaline, but the audience knows he has moved on to Juliet. A2 S1	Tragic Hero - A main character cursed by fate and possessed of a tragic flaw (Romeo, and to an extent Juliet).	
Soliloquy	Juliet's opening speech in A3 S2 in which she pours her heart out over her love for Romeo.	Hamartia - The fatal character flaw of the tragic hero (his passion and impulsiveness).	
Aside	Juliet secretly hopes for the 'villain' Romeo: <i>Villain and he be many miles asunder God pardon him!</i> A3 S5.	Catharsis - The release of the audience's emotions through empathy with the characters.	
Foreshadowing	Friar Laurence: <i>These violent delights have violent ends, And in their triumph die, like fire and powder.</i> A2 S6	Internal Conflict - The struggle the hero engages in with his/her fatal flaw.	

Resource	Link
3 minute animation	Click here
30 minute version	Click here
Full script	Click here

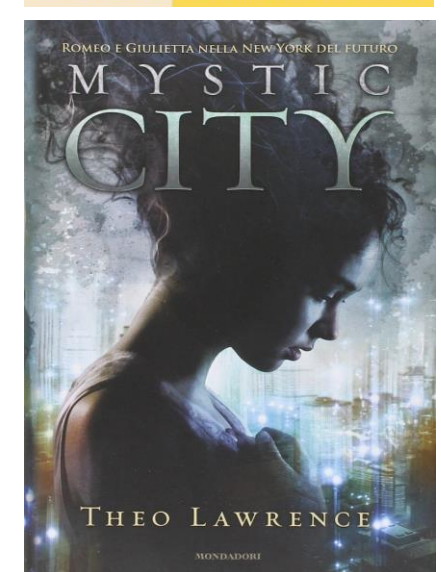
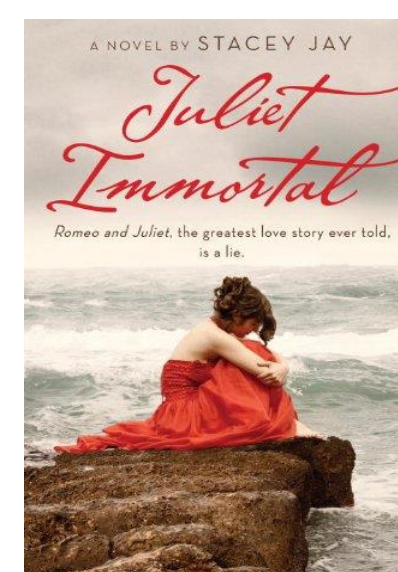
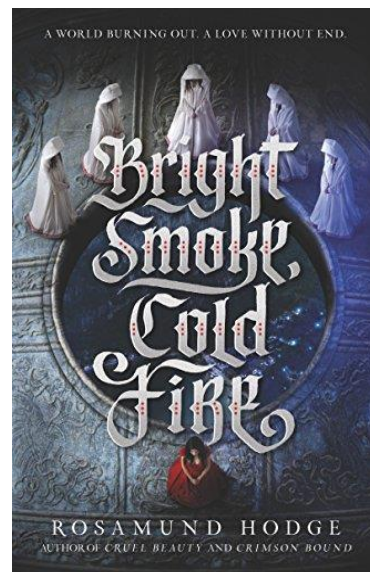
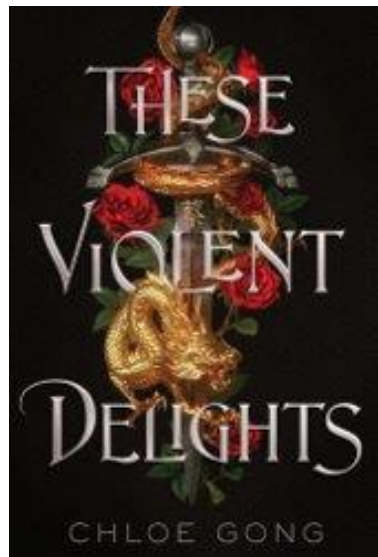
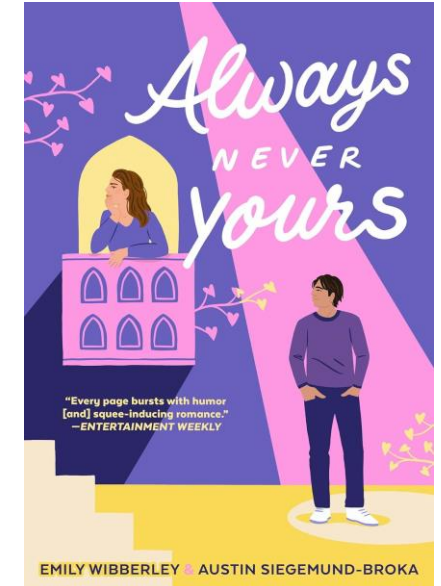
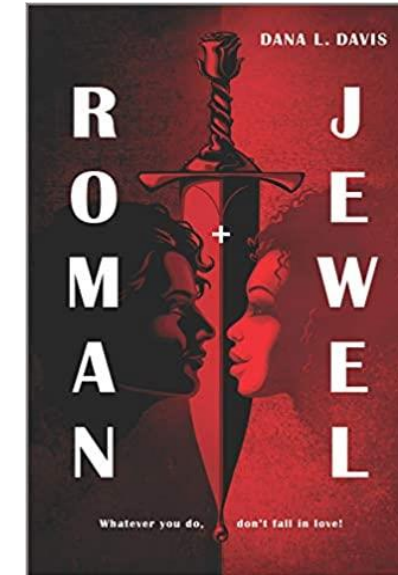
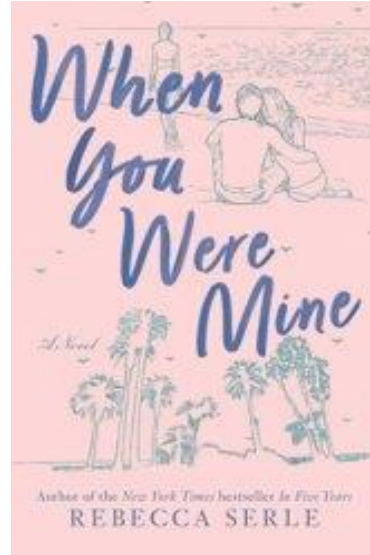
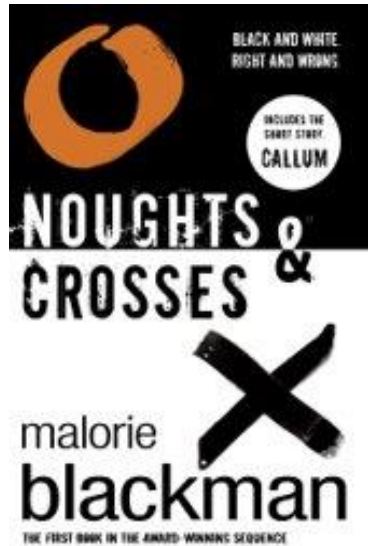


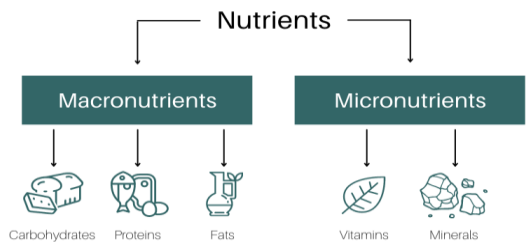
Scene-by-Scene Summary – Take note of the key quotations from each scene.		
Prologue	The Chorus speaks of an ancient grudge between two households, from which two 'star-crossed lovers' appear.	<i>From forth the fatal loins of these two foes A pair of star-crossed lovers take their life...</i>
Act 1 Scene 1	A street brawl breaks out between the Montagues and Capulets. The Prince intervenes. He threatens the death sentence for anyone who breaks the peace again.	<i>To old Free-town, our common judgment-place. Once more, on pain of death, all men depart.</i>
Act 1 Scene 2	Paris speaks of his desire to marry Juliet to Capulet. They arrange a masquerade ball so that he can begin to woo her. Peter accidentally invites Romeo and Benvolio.	<i>One fairer than my love? The all-seeing sun Ne'er saw her match since first the world begun.</i>
Act 1 Scene 3	Lady Capulet discusses the prospect of Juliet getting married to Paris. She dutifully says that she will look upon him.	<i>I'll look to like if looking liking move! But no more deep will I endart mine eye! Than your consent gives strength to make it fly.</i>
Act 1 Scene 4	Before the ball, Mercutio mocks Romeo. He gives his 'Queen Mab' speech. Romeo fears the night will set fate in motion.	<i>O, then I see Queen Mab has been with you... She is the fairies' midwife...</i>
Act 1 Scene 5	Romeo and Juliet meet at the ball. They immediately fall for each other – Romeo uses metaphors to compare her to a pilgrim. Tybalt spots Romeo and wants to kill him, but Capulet stops him. Romeo and Juliet learn that they are from warring families.	<i>If I profane with my unworsted hand This holy shrine, the gentle sin is this: My lips, two blushing pilgrims, ready stand To smooth that rough touch with a tender kiss.</i>
Act 2 Prologue	The chorus returns and delivers a sonnet about the new love.	<i>To smooth that rough touch with a tender kiss. But passion lends them power, time means, to meet,</i>
Act 2 Scene 1	Benvolio and Mercutio search for Romeo, who has escaped them in the hope of re-finding Juliet.	<i>Go then, for 'tis in vain To seek him here that means not to be found.</i>
Act 2 Scene 2	The famous 'balcony scene'. Romeo decides that he cannot go home without seeing Juliet again. He trespasses into her garden, where she appears at a window. They decide that they will wed.	<i>If that thy bent of love be honorable, Thy purpose marriage, send me word tomorrow, By one that I'll procure to come to thee,</i>
Act 2 Scene 3	Romeo visits Friar Laurence to ask if he will wed him to Juliet. Whilst shocked at how fickle Romeo's love is, he agrees.	<i>Thy love did read by rote that could not spell. But come, young waverer, come go with me,</i>
Act 2 Scene 4	Romeo arrives to meet Mercutio and Benvolio. The Nurse and Peter then arrive, and Mercutio makes fun of the Nurse. When Mercutio leaves, Romeo arranges with the Nurse for Juliet to meet him at Friar Laurence's chamber.	<i>The sovereignty will fall upon Macbeth. Bid her devise! Some means to come to shrift this afternoon. And there she shall at Friar Laurence's cell Be shrived and married.</i>
Act 2 Scenes 5-6	The Nurse sends Juliet to Friar Laurence's cell, where they are married. The Friar warns them to love moderately.	<i>But come what sorrow can, It cannot countervail the exchange of joy! That one short minute gives me in her sight.</i>
Act 3 Scene 1	Tybalt duels Mercutio. Romeo tries to make peace, but Tybalt stabs Mercutio dead under Romeo's arm. In rage, Romeo kills Tybalt. The Prince arrives and exiles Romeo.	<i>"A plague o' both your houses" "Ask for me tomorrow, and / you shall find me a grave man"</i>
Act 3 Scene 2	The Nurse tells Juliet of the fight. Juliet is traumatised by the idea of an exiled Romeo. The Nurse says she knows where he is hiding.	<i>O nature, what hadst thou to do in hell! When thou didst bower the spirit of a fiend! In moral paradise of such sweet flesh?</i>
Act 3 Scenes 3-4	Romeo despairs at hearing of being banished. The Friar makes a plan for him to visit Juliet before leaving. Elsewhere, Capulet contacts Paris and arranges for Juliet to marry him.	<i>There is no world without Verona walls But purgatory, torture, hell itself. Hence "banished" is banished from the world.</i>
Act 3 Scene 5	Romeo reluctantly leaves Juliet. Her mother then tells of the marriage to Paris. She rejects it. Capulet threatens to disown her.	<i>Hang thee, young baggage! Disobedient wretch! I tell thee what: get thee to church o' Thursday,</i>
Act 4 Scenes 1-2	Juliet meets Friar Laurence, saying that she would rather kill herself than marry Paris. Friar Laurence proposes the sleeping potion plan. She agrees, returns to her parents, and repents.	<i>Take thou this vial, being then in bed, And this distilled liquor drink thou off,</i>
Act 4 Scene 3	Juliet is scared, but drinks the contents of the vial.	<i>Romeo, Romeo, Romeo! Here's drink. I drink to thee.</i>
Act 4 Scenes 4-5	The Nurse finds Juliet dead on her wedding morning. The family are distraught, but agree to make the funeral arrangements.	<i>O me, O me! My child, my only life, Revive, look up, or I will die with thee!</i>
Act 5 Scene 1	Romeo is told of the death by Balthasar. Romeo decides that he will return to Verona to kill himself. Before doing so, he purchases poison from an apothecary.	<i>Well, Juliet, I will lie with thee tonight. Let's see for means. O mischief, thou art swift</i>
Act 5 Scene 2	Friar Laurence learns that Romeo has not received his letter informing him of the plan, and is worried. He doesn't know that Romeo now thinks that Juliet is dead.	<i>Unhappy fortune! By my brotherhood, The letter was not nice but full of charge,</i>
Act 5 Scene 3	Romeo finds Juliet's body and kills himself. She awakens and kills herself. Montague and Capulet commit to resolve.	<i>For never was a story of more woe Than this of Juliet and her Romeo.</i>

Vocabulary – to find meanings of and learn

1	2	3	4	5	6	7	8	9
	dignity,	foe	pun	rebellious	unworthies	loathed	infatuation	tedious
	fair	fatal	collier	partisans	shrine	prodigious	alliance	robes
	ancient	loins	choler	pernicious	sin	ominous / portentous	augur	tyrant
	grudge	star- crossed	valiant	brawl	pilgrims/ palmers	bewitched	rancour	fiend
	mutiny	strife	quarrel	fray	mannerly devotion	foe	banished	divinest
	civil	toil	tyrant	vanity	saints	bait	exile	presentiment

Modern retellings or books based on Romeo and Juliet...





HIGH FIBRE FOODS

Oats 1/2 cup = 5g fibre	Spinach 1/2 cup = 4.5g	Potatoes 1 medium = 3g	Strawberries 1 cup = 4g
Wheat-flax 2 biscuits = 3.5g fibre	Lentils 1/2 cup = 4g	Almonds 1/2 cup = 6.5g	Banana 1 medium = 3g
Orange 1 medium = 4g fibre	Corn 1/2 cup = 2.5g	Wholemeal bread 2 slices = 4g	Chickpeas 1/2 cup = 4.5g
Peas 1/2 cup = 4.5g fibre	Quinoa 1/2 cup cooked = 3g	Broccoli 1/2 cup = 3g	Apple 1 medium = 3.5g

GRAIN CHAIN Fibre in the diet

- The different functions within the body of the different types of fibre include:
- Helping in the prevention of constipation, which reduces the risk of diverticulitis and bowel cancer
 - Maintaining a normal blood cholesterol level
 - Reducing the rise of blood glucose after a meal
 - Associations with feelings of fullness to help to control food intake. This is because foods which are high in fibre tend to be low in energy density.



Types of Pastry

Short crust pastry Jam Tart, Lemon Tart	In this type of pastry, fat content is generally 40-60 percent. If the fat content is low, small quantity of baking powder should be used to impart tender eating quality.
Puff pastry Veg. Patties	Fat used for making puff pastry should have high melting point in order to withstand the frictional heat to which it is subjected during sheeting and folding operations.
Flaky pastry Cinnamon Roll Twists	Flaky pastry can be used for making pie crust, vegetable puffs, Bombay khara (as popularly known), cream rolls etc.
Filo Pastry Camembert Bread	Filo-based pastries are made by layering many sheets of filo.
Choux pastry Profit Roll	Choux pastry has altogether different kind of characteristics. This is an almost hollow shell which is crisp eating.

Submitted to:- Chef Sunil Kumar
Submitted By:- Manish

Protein are needed for growth and repair of muscles.



HBV or LBV???

High Biological Value Protein

These contain the 9 amino acids our body CANNOT make. Therefore they contain a high amount of protein. High protein foods are also known as 'High Risk' - because bacteria thrive on high protein foods.

Low Biological Value Protein

These do not contain the 9 amino acids our body CANNOT make. These are lower in protein, and so you must eat a large range of them to ensure you consume the 9 amino acids we cannot make.

Nut allergies?

Types of Carbs


COMPLEX CARBS	REFINED CARBS
Beans Potatoes Whole grains Oats Green vegetables	Cereals Grains Fruit Pastries Bread and pasta

Top tips for making good quality pastry...

- Use half fat to flour' and you'll always have a pastry recipe in your head – so for **200g flour**, use **100g butter**
- Whether you're using butter, lard or dairy-free spread, it should be chilled
- Don't add too much water – try 1 tbsp at a time. Use cold water
- Try to knead the dough as little as possible – think pushing it together rather than kneading. Try to avoid re-rolling
- Chill the pastry before you bake it (let it rest)

Tier 3 Vocabulary		
Key word		Definition
1	Macro-nutrient	A type of food (e.g. fat, protein, carbohydrate) required in large amounts in the diet
2	Micro-nutrient	Micronutrients are vitamins and minerals needed by the body in very small amounts.
3	Carbohydrate	Food consisting of or containing a lot of sugars , starch , cellulose , or similar substances that can be broken down to release energy in the human body, and make up one of the main nutritional food group
4	Starch	An odourless , tasteless white substance occurring widely in plant tissue and obtained chiefly from cereals and potatoes.
5	Fibre	Dietary fibre is plant material that cannot be digested by the human body. It helps the digestive system to move food through the intestines and push the waste material out of the body.
6	shortness	This style of dough is "short" because the amount of flour is usually double the amount of fat, allowing it to break apart more easily for example in pastry and shortbread biscuits.
7	Saturated fat	Saturated fat is the kind of fat found in butter, lard, ghee, fatty meats and cheese. Usually from an animal source and solid at room temperature.
8	Unsaturated fat	Unsaturated fats, which are liquid at room temperature, are considered beneficial fats because they can improve blood cholesterol levels, ease inflammation, stabilize heart rhythms, and play a number of other beneficial roles. Unsaturated fats are predominantly found in foods from plants, such as vegetable oils, nuts, and seeds.
9	Low biological value protein	Low biological value (LBV) proteins offer some protein but all we need. They're only found in plant sources e.g. peas, lentils, nuts, seeds and most beans, and in smaller amounts in vegetables like spinach and broccoli.

Notes:

Quiz QR Code	Quiz Link
	Quiz Link

PAST TENSE

1. What is a verb?

a. A naming word b. a doing word c. a describing word

2. Give an example of a verb in the infinitive IN ENGLISH?

3. In French the infinitive of a common verb ends in

a. FR b. AR c. ER

5. These are called ER verbs TRUE or FALSE ?

6. To put these into the PAST TENSE what are the steps

STEP 1

STEP 2

Step 3

7. NOW put these into the past. Look at the pattern in the example

example jouer = j'ai joué

regarder = _____ texter = _____

manger = _____ téléphoner = _____

Year 9 and 10 Knowledge Goals: French

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	Past participle	The Third part of the past tense eg visité.

Notes:

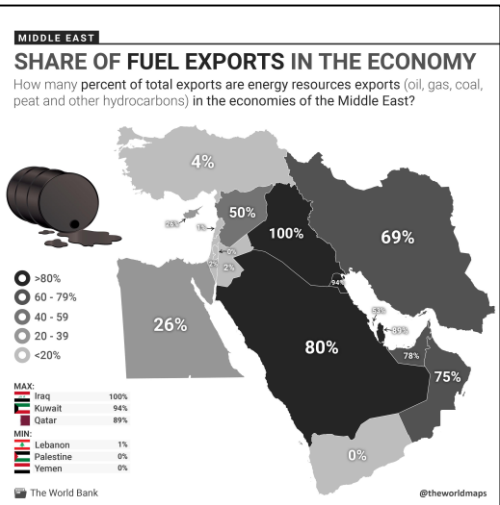
Languagenut
Grammar gaming

Quiz QR Code



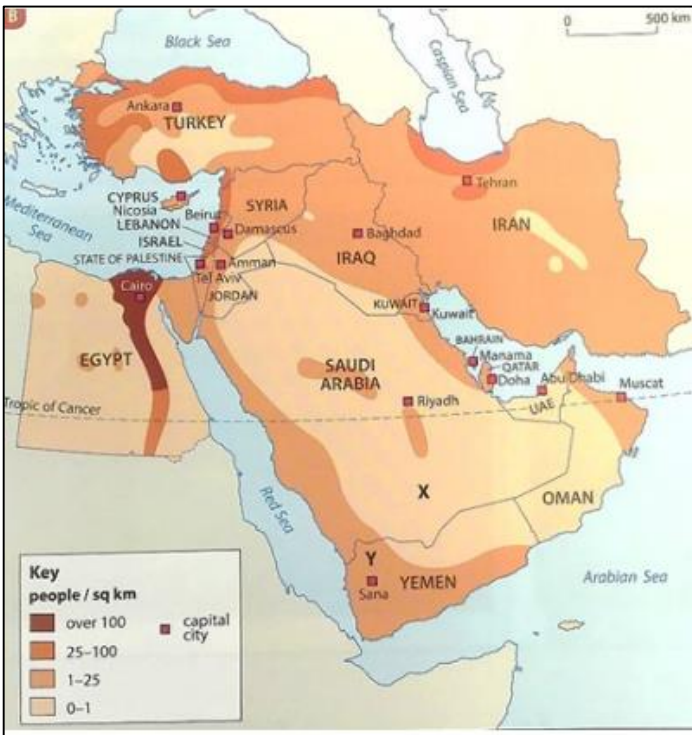
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Dubai's sustainable city project:

1. The community includes electric buggies.
2. All the water and waste is 100% recycled.
3. Dubai Sustainable City is a car-free community.
4. The community grows their own organic produce that is consumed within the community.
5. Air conditioning units are 40% smaller.
6. The entire area is powered by 600,000 square feet of solar cells.
7. 60% green spaces.
8. Water is recycled.
9. Houses are 100% solar powered.



Key physical geographical features:

Deserts	Mountain Ranges	Rivers	Seas/Gulfs	Tectonic Profile
Arabian An Nafud Syrian Dash e-lut Eastern Sahara	Taurus Zagros Caucasus Azir and Hejas Hadramawt	Euphrates Shatt Al Arab Tigris Amu Darya Suez Canal*	Red Sea Mediterranean Sea Persian Gulf Gulf of Oman Arabian Sea	Earthquakes Volcanoes Fold Mountains Arabian Plate Eurasian plate

Tier 3 Vocabulary		
Key word		Definition
1	Middle East	A region located politically between Asia, Africa and Europe and located physically between the Mediterranean sea and Indian ocean.
2	Economy	The state of a country or regions wealth and exports and imports of goods.
3	OPEC	Organization of the Petroleum Exporting Countries – this group control the price and exporting rights of oil across the globe.
4	Sustainability	The ability to provide resources to meet current and future needs.
5	Instability	A state of unpredictability, this can be politically, socially, environmentally and economically.
6	Environment	The conditions in which the living world and inorganic world cohabit.
7	Biome	A large naturally occurring community of flora and fauna occupying a major habitat with shared characteristics , e.g. forest or desert.
8	Desert	An environment which lacks precipitation.
9	Migration	The movement of people to a new area or country.
10	Development	The advancement of infrastructure, living conditions, quality of life and the economy in a region or country.
11	Quality of Life	The conditions of the individuals personal wealth, health and education within a region or country.
12	Conflict	The disagreement, often hostile, between people or groups of people.
13	Multicultural	Multiple ethnic, cultural or social groups occupied in the same society..

Notes:

Quiz QR Code	Quiz Link
	Quiz Link

The Big Question: What is the history of black peoples of the Americas?

1. What was Africa like before the Slave Trade?

- The people of West Africa had a rich and varied history and culture long before the slavers arrived. They had a wide variety of political arrangements including kingdoms, city states and other organisations, each with their own languages and culture.
- West Africans had tradeded with Europeans through merchants in North Africa for centuries. The first traders to sail down the West African coast were the Portuguese in the 15th century. Later the Dutch, British, French and Scandinavians followed. They were mainly interested in precious items such as gold, ivory and spices, particularly pepper.
- From their first contacts, European traders kidnapped and bought Africans for sale in Europe. However, it was not until the 17th century, when plantation owners wanted more and more slaves to satisfy the increasing demand for sugar in Europe, that transatlantic slaving became the dominant trade.

4. What happened to the slaves once they were released?

- In 1865 the Jim Crow Laws were issued.
- The Jim Crow Laws were named after a character in a plantation song that the black slaves used to sing. He allegedly had a white girlfriend which made him a hated figure in the South.
- These laws were introduced by the state governments of the southern states after the Civil War to make sure that although black people were free from slavery, they would never be equal to whites.
- The laws: **Segregated** (separated) black people from whites so they had to use separate, or separate sections of buses, trains, theatres, hospitals and churches.

5. What barriers did black Americans face after slavery?

- They were **terrorised and persecuted** by a racist group called the Ku Klux Klan.
- They had poorer facilities (unequal)
- They were not allowed to vote.
- Some banks refused black Americans to apply for a mortgage.
- They could be arrested for sitting in the "wrong area" in public facilities such as on buses or diners.
- They were often the last to be hired by an employer and the first to be fired from a job.

2. What was Triangular Trade?

- For the British slave traders it was a three-legged journey, called the 'triangular trade':
- Taking trade goods, such as guns and brandy, to Africa to exchange for slaves.
- Second leg of the journey, from Africa to West Indies, Central America and South America transported slaves.
- Products like tobacco, Coffee, cotton, sugar, mined minerals and rice would be bought with the money earned from the sales of slaves. These products would be taken back to Europe and sold with huge profits.

3. What was the Middle Passage?

- After their capture the slaves would be forced to walk to the coast. Sources suggest it would be 8 hours days with the slaves forced to walk 20 miles per day. They would be bound to each other for all of this journey to prevent them from running away so it would be extremely difficult. Most slaves would not really understand what was happening and no idea where they were being taken. Families would be separated adding to their despair.
- Once on the coast the slaves would be placed in cells until they were not sold. This could take up to months at the time depending when the next group of ships would arrive. Many slaves would die during this period.
- The lucky once would be eventually sold to the ship captains to be transported to Americas. **This leg of the journey was called Middle Passage.** This leg of the journey would normally take 6 to 8 weeks but in bad weather it could drag for even up to 13 weeks. Most slaves never saw the ocean or travel on boats so journey on huge ships often would make them ill.
- Slaves were restrained through the whole journey with chains. These would often cause wounds that would become infected. Many would suffer from sickness and diarrhoea as they had no toilet facilities but a bucket. The conditions were so terrible that many slaves would try to take their own lives during the journey or die of illnesses and infections. The food was scarce and of low quality adding to the problems. Sometimes slaves would try to overpower the slave traders but these were rarely successful because the slaves did not know how to sail, when caught they would be killed.

6. Important events – Brown vs Topeka – 1954

- In 1954, 20 US states, including Washington D.C. had segregated schools.
- Linda Brown, a 7 year old black girl had to walk 20 blocks to school even though there was a school for white people just two blocks away.
- With the help of the NAACP, the Topeka Board of Education was taken to court and the case ended up in the US Supreme Court the most important court in the land.
- The verdict was a landmark decision, the court under Chief Justice Earl Warren declared that **segregated** schools were not equal and therefore illegal. He ordered the **desegregation** of schools in 1954.


Little Rock High School – 1957

- In September 1957, at Little Rock Central High School, 9 black students tried to take their places at the all white high school.
- They wanted to show that despite the law changing in 1954, schools were still segregated.

Tier 3 Vocabulary		
Key word		Definition
1	Slavery	Where one person is owned by another like property. This person will have no rights.
2	Freedom	Means that a person has a right to be treated equally, and to have choices over their own future.
3	Indentured servitude	When a person agrees to serve another for a period of time, in payment for their travel. At the end of indenture, they gain their freedom.
4	Slave trade	Refers to the transatlantic trading patterns which were established in the mid 17 th century. Slaves were captured in Africa, and taken against their will to the Americas.
5	Colony	An area or country under the control of another country.
6	Segregation	The action of separating people.
7	KKK	A racist group who targeted black Americans.
8	White supremacy	The belief that white people are greater than other races.
9	Constitution	A set of rules that guides how a country, state, or other political organisation works.
10	Desegregation	The action of bringing people together (integrate)
11	NAACP	An organization that helped black people campaign against the Jim Crow Laws and inequality.
12	Civil Rights	The attempt to gain freedom and be treated equally.

Notes:

This term we will be studying the experience of Native and Black Americans. We will begin with looking at the lifestyle and beliefs of Native Americans, before focusing on the experience of African Americans. This will encompass their capture and transportation to America, experiences of slaves on the plantations, and reasons for abolition. We will then study the end of slavery, and their struggle to gain freedom and equality since.

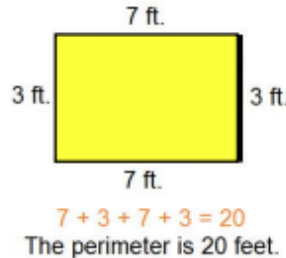
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You need to be able to:

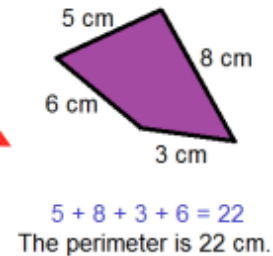
- Calculate the perimeter of a shape.
- Calculate the area of a square, rectangle, triangle, parallelogram and trapezium.
- Calculate the area of a compound shape.
- Calculate the surface area of a cube and cuboid.
- Calculate the surface area of a triangular prism.
- Identify the number of faces, edges and vertices of a 3D solid.
- Calculate the volume of a cube or cuboid.
- Calculate the volume of a triangular prism.

What you need to know:**Perimeter**

Perimeter: This is the total distance around the outside of the shape.



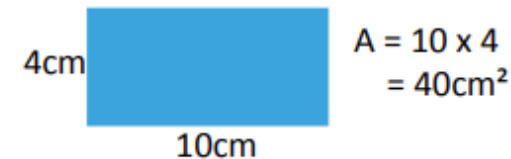
We must
remember to
include all of
the sides.

**Area**

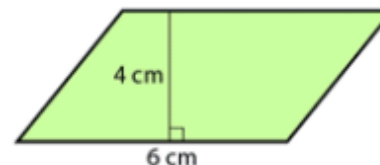
Area: This is the space that a 2D shape takes up.

Squares and rectangles:

The formula is the same for both shapes: **A = Length x Width**

**Parallelograms:**

The formula is similar to a rectangle but instead of width we use the height. **A = Length x Height**



$$A = 6 \times 4$$

$$= 24\text{cm}^2$$

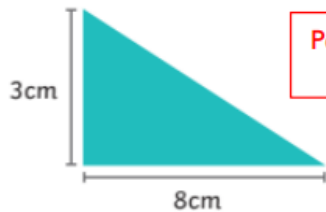
Sometimes the
length is
referred to as
the base.

What you need to know:Area

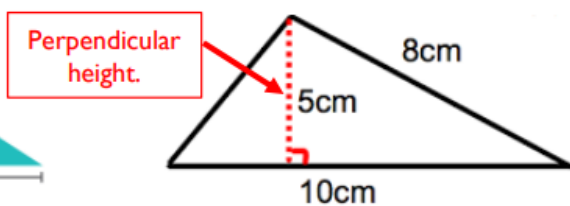
Triangles: To find the area of a triangle we use the following formula:

$$\text{Area} = \frac{\text{Base} \times \text{perpendicular height}}{2}$$

The formula is very similar to a rectangle but we must divide by 2 because a triangle is half the size of a rectangle.



$$\text{Area} = \frac{8 \times 3}{2} = 12\text{cm}^2$$

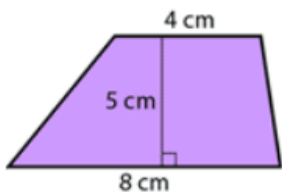


$$\text{Area} = \frac{10 \times 5}{2} = 25\text{cm}^2$$

Trapeziums: To find the area of a trapezium we use the following formula:

$$\text{Area} = \frac{(a+b)}{2} \times h$$

Where a and b are the parallel sides and h is the height.



$$\text{Area} = 4 + 8 = 12$$

$$12 \div 2 = 6$$

$$6 \times 5 = 30\text{cm}^2$$

Add the parallel sides.

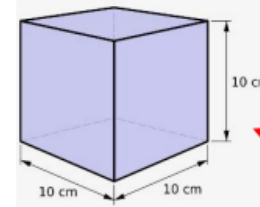
Divide the total by 2.

Multiply by the height.

Surface Area

Surface area: This is the area of all of the faces of a 3D solid added together.

Cubes: Find the area of one of the faces and then multiply by 6. This is because all of the faces of a cube are the same size.

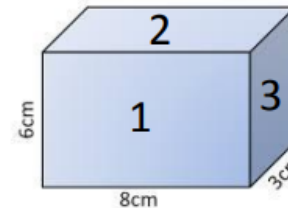


$$\text{Area of 1 face} = 10 \times 10 = 100\text{cm}^2$$

$$\text{Total surface area} = 100 \times 6 = 600\text{cm}^2$$

There are 6 faces with the same area.

Cuboids: They have 3 pairs of faces. We need to find the area of each of the faces we can see, add them together and then double.



$$\text{Face 1} = 8 \times 6 = 48\text{cm}^2$$

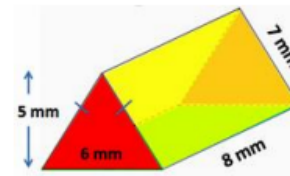
$$\text{Face 2} = 8 \times 3 = 24\text{cm}^2$$

$$\text{Face 3} = 3 \times 6 = 18\text{cm}^2$$

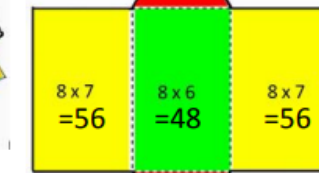
$$\text{Total} = 90\text{cm}^2$$

$$\text{Surface area} = 2 \times 90 = 180\text{cm}^2$$

Triangular prism: They have a pair of triangular sides and 3 rectangular sides



$$\frac{6 \times 5}{2} = 15$$












$$\begin{aligned} \text{Surface area} &= 15 + 15 + 56 + 56 + 48 \\ &= 190\text{mm}^2 \end{aligned}$$

Find the area of each face and then add together.

What you need to know:

3D solids: They have 3 dimensions – length, width and depth. Here are the main 3D solids that you need to be familiar with.

Cube  6 square faces 12 edges 8 vertices	Tetrahedron  4 triangular faces 6 edges 4 vertices	Sphere  1 curved surface 0 edges 0 vertices
Cuboid  6 faces 12 edges 8 vertices	Octahedron  8 faces 12 edges 6 vertices	Triangular prism  5 faces 9 edges 6 vertices
Square-based pyramid  5 faces 8 edges 5 vertices	Cone  1 circular face 1 curved surface 1 curved edge 1 apex	Cylinder  2 circular faces 1 curved surface 2 curved edges 0 vertices

You especially need to know the names of these solids.

Volume

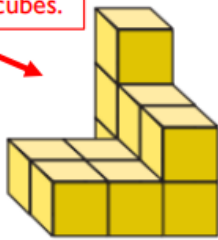
Volume: This is the amount of space that a 3D object occupies. Sometimes an object is made up of cubes, we can count them to calculate the volume.

This is made up of 11 cubes.

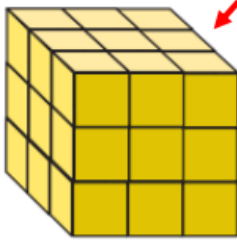


= 1cm³

This is made up of 1 cube.



11cm³

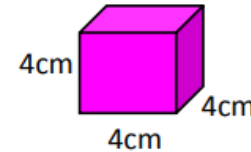


27cm³

This is made up of 27 cubes.

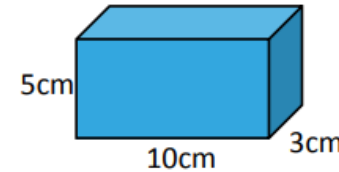
Cubes and cuboids: To calculate the volume of a cube and cuboid we use the following formula:

$$\text{Volume} = \text{Length} \times \text{Width} \times \text{Height}$$



$$\text{Volume} = 4 \times 4 \times 4 = 64\text{cm}^3$$

The units are cubic for volume.



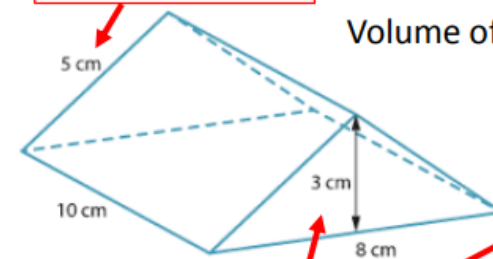
$$\text{Volume} = 10 \times 3 \times 5 = 150\text{cm}^3$$

It doesn't matter which order you multiply in.

Prism: A prism is a solid object with identical ends and flat faces. The general formula for the volume of a prism is:

$$\text{Volume} = \text{Area of the cross section} \times \text{Length}$$

We do not need this.



Volume of triangular prism = Area of a triangle x length

$$\text{Area of triangle} = \frac{3 \times 8}{2} = 12$$

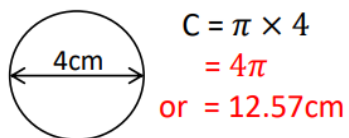
$$\text{Volume} = 12 \times 10 = 120\text{cm}^3$$

Area of the cross section.

Multiply the area of the cross section by 10 which is the length.

Calculate:

a) Circumference



b) Diameter when the circumference is 20cm

$$C = \pi \times d$$

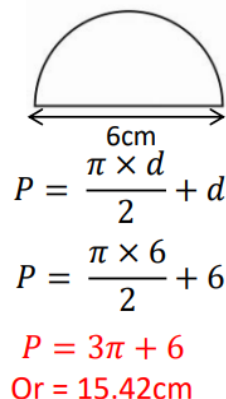
$$20 = \pi \times d$$

$$\frac{20}{\pi} = d$$

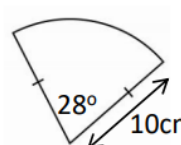
$$\text{Or } 6.37\text{cm}$$

Examples

c) Perimeter



d) Arc length



$$\text{Arc} = \frac{\theta}{360} \times \pi \times d$$

$$\text{Arc} = \frac{28}{360} \times \pi \times 2 \times 10$$

$$\text{Arc} = \frac{28}{360} \times \pi \times 20$$

$$\text{Arc} = \frac{14}{9}\pi$$

$$\text{Or} = 4.89\text{cm}$$

Pythagoras' Theorem

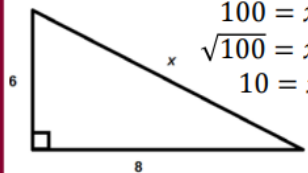
$$a^2 + b^2 = c^2$$

$$6^2 + 8^2 = x^2$$

$$100 = x^2$$

$$\sqrt{100} = x$$

$$10 = x$$



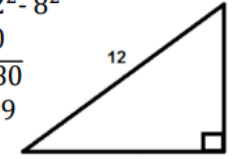
$$a^2 + b^2 = c^2$$

$$a^2 + 8^2 = 12^2$$

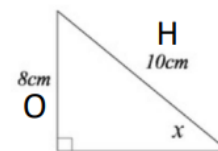
$$a^2 = 12^2 - 8^2$$

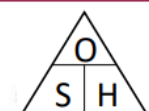
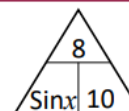
$$a^2 = 80$$

$$a = \sqrt{80}$$

$$a = 8.9$$


Examples

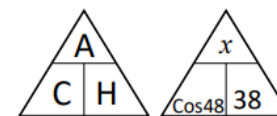


$$\sin x = \frac{8}{10}$$

$$x = \sin^{-1}\left(\frac{8}{10}\right)$$

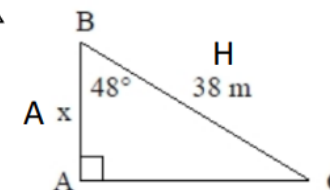
$$x = 53.1^\circ$$



$$\cos 48 = \frac{x}{38}$$

$$38 \times \cos 48 = x$$

$$x = 25.4\text{m}$$



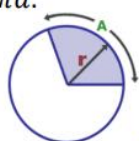
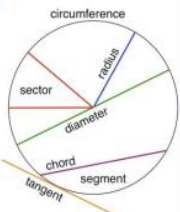
Key Concepts

Parts of a circle

Circumference

of a circle is calculated by πd and is the distance around the circle.

Arc length of a sector is calculated by $\frac{\theta}{360} \pi d$.



Key Concepts

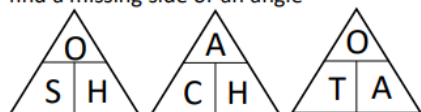
Pythagoras' theorem and basic trigonometry both work with **right angled triangles**.

Pythagoras' Theorem – used to find a missing length when two sides are known

$$a^2 + b^2 = c^2$$

c is always the hypotenuse (the longest side)

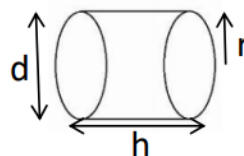
Basic trigonometry SOHCAHTOA – used to find a missing side or an angle



When finding the missing angle we must press **SHIFT** on our calculators first.

Key Concepts

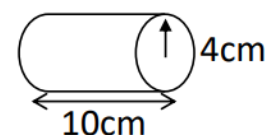
A **cylinder** is a **prism** with the cross section of a circle.



The **volume** of a cylinder is calculated by $\pi r^2 h$ and is the space inside the 3D shape

The **surface area** of a cylinder is calculated by $2\pi r^2 + \pi dh$ and is the total of the areas of all the faces on the shape.

From the diagram calculate:



a) Volume

$$V = \pi \times r^2 \times h$$

$$V = \pi \times 4^2 \times 10$$

$$V = 160\pi$$

$$\text{Or} = 502.65\text{cm}^3$$

b) Surface Area – You can use the net of the shape to help you

Area of two circles

$$= 2 \times \pi \times r^2$$

$$= 2 \times \pi \times 4^2$$

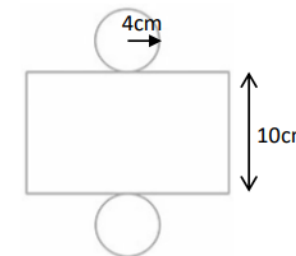
$$= 32\pi$$

Area of rectangle

$$= \pi \times d \times h$$

$$= \pi \times 8 \times 10$$

$$= 80\pi$$



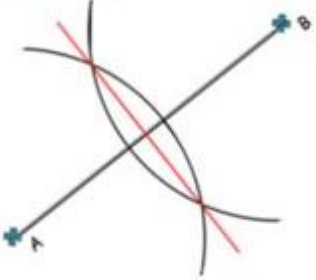
$$\text{Surface Area} = 32\pi + 80\pi$$

$$= 112\pi$$

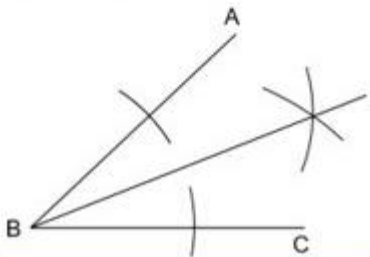
$$\text{or} = 351.86\text{cm}^2$$

Key Concepts

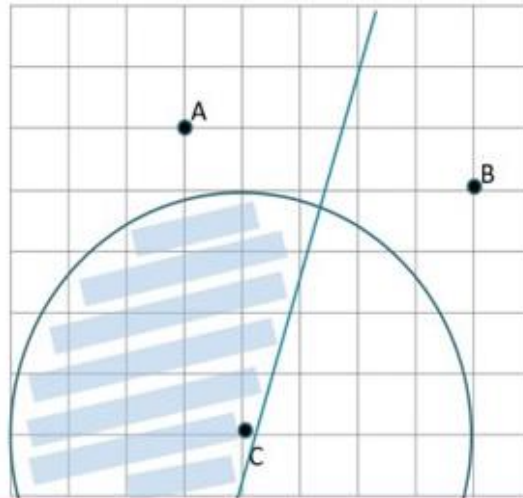
Line bisector



Angle bisector



Examples

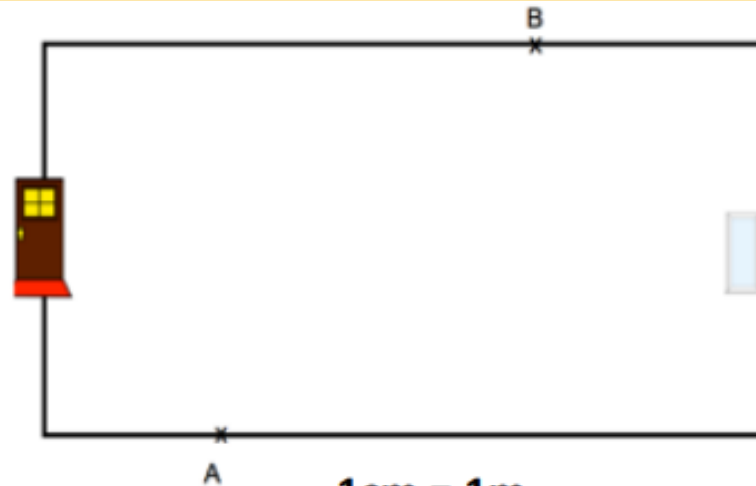


Shade the region that is:

- closer to A than B
- less than 4 cm from C

Line bisector
of A and B

Circle with
radius 4cm



1cm = 1m

There are two burglar alarm sensors,
one at A and one at B.


The range of each sensor is 4m.

The alarm is switched on.

Is it possible to walk from the front
door to the patio door without setting
off the alarm?

Tier 3 Vocabulary		
Key word		Definition
1	Surface area	The sum of the areas of all the surfaces (faces) of a three-dimensional figure.
2	Volume	The amount of space that a three-dimensional figure contains. It is expressed in cubic units.
3	Area	The amount of flat space within the boundaries of the figures. It is expressed in square units.
4	Perimeter	The total length of the outside boundary of a plane figure. It is expressed in units of length.
5	Hypotenuse	The longest side of a right-angled triangle, opposite the right angle.
6	Pythagoras' theorem	A theorem attributed to Pythagoras that the square on the hypotenuse of a right-angled triangle is equal in area to the sum of the squares on the other two sides.
7	Diameter	A straight line passing from side to side through the centre of a body or figure, especially a circle or sphere.
8	Circumference	The enclosing boundary of a curved geometric figure, especially a circle.
9	Scale drawing	A scale drawing is an enlargement of an object.
10	Bisector	The line that divides something into two equal parts.
11	Perpendicular	At an angle of 90° to a given line, plane, or surface or to the ground.
12	Loci	A curve or other figure formed by all the points satisfying a particular equation of the relation between coordinates, or by a point, line, or surface moving according to mathematically defined conditions.

Notes:

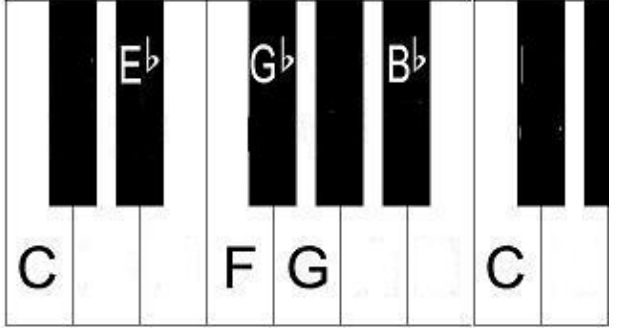
Quiz QR Code	Quiz Link
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Blues Music and Improvising

1. Blues music started in the southern states of the USA over 100 years ago.
2. African enslaved people brought their musical traditions with them when they were brought to work in North American colonies.
3. Lots of blues music involves improvised music. To improvise means to 'make it up as you go'.
4. Free improvising means you can play anything, without rules! However blues music has a few rules to follow:
 - Improvise using the notes of a blues scale.
 - Follow the structure of a 12 bar blues song.


C Blues Scale

On a keyboard



Notated

C blues scale



basicmusictheory.com

12 Bar Blues Structure

12 Bar Blues Chord Progression in C

1	C	2	C	3	C	4	C
5	F	6	F	7	C	8	C
9	G	10	F	11	C	12	G

12 Bar Blues Chord Progression

1	I	2	I	3	I	4	I
5	IV	6	IV	7	I	8	I
9	V	10	IV	11	I	12	I or V


Tier 3 Vocabulary		
Key word		Definition
1	Improvising	Making the music up
2	The blues scale	The notes you can use to improvise
3	Flat (b) 3rd	A note in the scale that sounds 'bluesy'.
4	Flat (b) 5th	A note in the scale that sounds 'bluesy'.
5	12 Bar Blues	The standard structure of a 12 blues song.
6	Chord I (1)	The 'home' chord/first chord in a blues song, e.g. If a blues song is in C then the C is chord I.
7	Chord IV (4)	A chord used in a blues song. If a blues song is in C then the F is chord IV.
8	Chord V (5)	A chord used in a blues song. If a blues song is in C then the G is chord V.
9	Left Hand Bass Note	A note you can play in the LH on the keyboard to accompany your RH improvising.
10	Steady beat	Playing without getting faster or slower

Notes:

Quiz QR Code	Quiz Link
	Quiz Link

Tier 3 Vocabulary		
Key word		Definition
1	Identity	Identity is the qualities, beliefs, personality traits, appearance, and/or expressions that characterize a person or a group
2	Diversity	the fact of many different types of things or people being included in something
3	Diverse society	Having a multitude of people from different backgrounds and cultures together in the same environment working for the same goals
4	Prejudice	Prejudice is an unreasonable dislike of someone or something , or an unreasonable preference for one group over another
5	Discrimination	Direct discrimination is when a person is disadvantaged by being treated less favourably than another person in a comparable situation
6	Bullying	Bullying is an ongoing and deliberate misuse of power in relationships through repeated verbal, physical and/or social behaviour that intends to cause physical, social and/or psychological harm.
7	Responsibility	the state or fact of being responsible, answerable, or accountable for something within one's power, control, or management
8	Tolerance	willingness to accept feelings, habits, or beliefs that are different from your own
9	Money management	is the process of tracking expenses, investing, budgeting and banking.

Notes:

Quiz QR Code	Quiz Link
	Quiz Link

HOCKEY...

- The origins of hockey can be traced to ancient civilizations, where various forms of stick-and-ball games were played. Drawings on the walls of tombs in Egypt dating back over 4,000 years depict a game that involved players using sticks and a ball. Similarly, ancient Greeks played a game called "krikilion," which involved hitting a ball with a curved stick.
- Various cultures around the world independently embraced stick-and-ball games, contributing to the diverse roots of hockey. From ancient civilizations to indigenous peoples in North America playing games like lacrosse, there's a rich tapestry of cultural influences that have shaped the evolution of the sport.
- The modern version of field hockey began to take shape in Europe, particularly in England, during the late 19th century. The establishment of standardised rules and the organization of formal competitions marked a pivotal moment in the evolution of hockey as a structured and widely played sport.
- As hockey gained popularity in Europe, it began to spread across continents. The sport's adaptability and appeal led to its adoption in diverse regions, each incorporating its own unique styles and variations. From field hockey to ice hockey, the sport took on different forms as it traversed the globe
- Today, hockey stands as a global sporting phenomenon, with millions of players and fans participating in various forms of the game. Whether played on fields or icy rinks, hockey has evolved into a dynamic and thrilling sport that captivates audiences worldwide, showcasing the enduring legacy of a game that began with ancient civilisations.



LINKS TO A HIGHLIGHT TAPE FROM THE OLYMPICS

This was a bronze medal match between India and Germany and the 2020 Olympics.

[India win bronze after 41 years 🏆 IN | #Tokyo2020 Highlights \(youtube.com\)](#)

What skills can you notice in this top level game? And how can you relate this sport to any others?

Different skills in Hockey:

How to conduct the skills:

Dribbling

[Improve Your Hockey Skills | Hertzberger TV | Field hockey tutorial \(youtube.com\)](#)

Indian Dribbling

[Indian Dribble | Hertzberger TV | Field Hockey Tutorial \(youtube.com\)](#)

Slider pass

[Field Hockey Slider Pass \(youtube.com\)](#)

Receiving the ball

[Trapping & Receiving | Hertzberger TV | Field hockey tutorial \(youtube.com\)](#)

Forehand shot


[Forehand Shot by Hertzberger | Field Hockey Training Tutorial | Hertzberger TV \(youtube.com\)](#)

Reverse shot

[Reverse Shooting Drill | Hertzberger TV | Tutorial \(youtube.com\)](#)

Tier 3 Vocabulary		
Key word		Definition
1	Dribbling	Controlling the ball while running with short touches
2	Passing	Forehand and backhand passing techniques
3	Receiving	Trapping the ball effectively upon receiving passes.
4	Shooting	<ul style="list-style-type: none">• Different shot techniques including the push, hit, and flick• Accuracy and power in shooting towards the goal
5	Tackling	Stick tackles to dispossess opponents
6	Defensive Positioning	Marking opponents effectively to disrupt their play
7	Attacking Positioning	Creating and exploiting space in the attacking third
8	Penalty Corner Skill	<ul style="list-style-type: none">• Executing penalty corner injections and stops• Drag-flicks and other specialized penalty corner shots
9	Aerial skills	Lifting and receiving the ball in the air
10	Fitness and Conditioning	Endurance for continuous running
11	Teamwork	Understanding and executing team strategies
12	Communication	Verbal and non-verbal communication with teammates

Notes:

Quiz QR Code	Quiz Link
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Year 7 & 8 Knowledge Goals: Physical Education

Spring half-term 1 DANCE

Overview

-Dance is all about moving our bodies to a musical rhythm. There are many different types of dance.

-In dance, we explore space, and consider how we can use our bodies to show ideas, moods, characters and feelings.

KS 3-4 In dance, we learn the basic skills of travelling in different ways. We also consider how to dance can be used to show different things. We use counts of 8 to keep ourselves in time.

-We should learn how to perform movements safely, and begin giving and receiving feedback using the correct key words.



Planning

Decide on the theme of your dance and give it a title.

Accompaniment

A dance is usually performed to musical accompaniment. Choose a costume that will add to the ambience of your dance.



Movement

Experiment with the 5 basic actions: travel, jump, turn, gesture and stillness.



Motifs

Using the 5 basic actions, create and develop motifs. Expand and combine motifs to create phrases.



Relationships

When performing a solo, consider how you will relate to the accompaniment, e.g. question and answer rhythms.



Group

If you are performing a duo, trio or group dance, vary the formations to add variety and interest to the dance.



Quality

The quality of the performance will depend largely on clarity of shape, use of personal space, and the rhythm/flow of the dance.



REHEARSE, REHEARSE, REHEARSE, & EVALUATE!

Section 1

Spring half-term 1 DANCE

1

TRAVELLING

Includes stepping, transferring body weight and sliding.



2

JUMPING

There are various ways of jumping: 2 feet to 2 feet, 2 feet to 1 foot etc.



3

TURNS

1/4, 1/2, 1/3 or full turns. Turns can be performed as a jump.



4

GESTURES

A body movement that portrays a concept or mood.



5

STILLNESS

A motionless pose during the dance sequence.




Section 1

Year 7 & 8 Knowledge Goals: Physical Education

Section 2



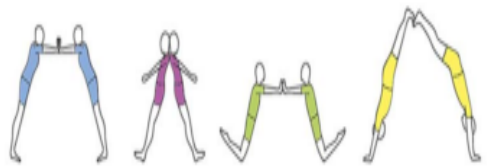
Spring Term 1: DANCE Tier 3 Vocabulary		
1	Choreography:	The art of creating and arranging dance sequences or routines. Choreographers design the movements, steps, and patterns that dancers perform.
2	Movement:	The physical actions and gestures performed by dancers, which can vary in speed, range, and intensity.
3	Rhythm:	The pattern of beats and timing in dance movements and music. Rhythm is crucial in various dance styles to create a sense of flow and musicality.
4	Performance:	A live presentation of dance before an audience. Dance performances can take place on stages, in theatres, or at various venue.
5	Routine:	In dance, a routine is a structured sequence of dance steps and movements performed in a specific order. Routines are often designed for performances or practice.
6	Sequence:	In dance, a sequence is a series of steps and movements that are performed in a specific order. Sequences contribute to the overall structure of a dance routine.
7	Tempo:	Tempo refers to the speed or pace of the music and, consequently, the dance movements. It can vary from slow to fast, influencing the energy and mood of the dance.
8	Sequence	In dance, a sequence is a series of steps and movements that are performed in a specific order. Sequences contribute to the overall structure of a dance routine.
9	Balance:	Balance is the ability to maintain stability and equilibrium while performing dance movements. It is crucial for executing movements that require control and poise.
10	Flexibility	Flexibility is the range of motion in the joints and muscles. In dance, it allows for increased freedom of movement and the ability to perform movements with greater ease.
11	Extension	Extension refers to the lengthening or stretching of the limbs and body. Dancers strive for full extension to create beautiful lines and lines in their movements.
12	Turnout:	Turnout is the outward rotation of the legs and hips from the hip joints. It is a fundamental element in classical dance forms like ballet.

Notes:

Section 3	
Quiz QR Code	Quiz Link
	Quiz Link

Year 7 & 8 Knowledge Goals: Physical Education

Spring half-term 2 GYMNASTICS

Section 1	Overview		
	<p>-Gymnastics is a sport in which we do exercises that need strength, balance, flexibility and control.</p> <p>-In gymnastics, we may use lots of different skills, for example running, jumping, balancing, stretching, bending and tumbling.</p> <p>-In KS1 gymnastics, we learn the basic skills of <u>travelling</u> in different ways. We also consider how to <u>balance</u>, <u>roll</u> and <u>jump</u> with <u>control</u>. We put our ideas together into <u>sequences</u>.</p> <p>-We should learn how to perform movements <u>safely</u>, build our <u>confidence</u> and respond to <u>feedback</u> given by others.</p>		
	Counter-tension	A balance in pairs in which each partner is supporting the other's weight by pulling against each other.	<p>COUNTER TENSION</p> 
	Counter-balance	A balance in pairs in which each partner is supporting the other's weight by pushing against each other.	<p>COUNTER BALANCE</p> 

Spring half-term 2 GYMNASTICS

Section 1	<p>tuck jump</p> 	<p>pencil jump</p> 	<p>star jump</p> 	<p>pike jump</p> 	<p>straddle jump</p> 	<p>hop jump</p> 
	<p>pencil roll</p> 	<p>forward roll</p> 	<p>cartwheel (roll)</p> 	<p>egg roll</p> 		
	<p>running</p> 	<p>leaping</p> 	<p>skipping</p> 	<p>walking</p> 	<p>change direction</p> 	<p>crawling</p> 
	<p>The Basic Shapes in Gymnastics</p> 					


Year 7 & 8 Knowledge Goals: Physical Education

Section 2

Spring Term 1: DANCE Tier 3 Vocabulary

1	Gymnastics:	A sport that involves a combination of strength, flexibility, balance, and coordination, with athletes performing a series of exercises and routines on various apparatuses.
2	Apparatus:	The equipment used in gymnastics, including the balance beam, uneven bars, vault, parallel bars, and rings.
3	Floor Exercise:	A gymnastics event that involves a choreographed routine performed on a padded floor mat, combining tumbling passes, dance elements, and jumps.
4	Dismount:	The final element of a gymnastics routine or apparatus performance, where the gymnast leaves the apparatus or floor with a controlled landing.
5	Bridge:	A bridge is one of the most basic skills in gymnastics. To do a bridge, the gymnast lies flat on the floor, and then pushes up so that she is supported by her hands and feet. It's easier to understand by looking at the picture.
6	Form:	The proper alignment and technique of gymnastic movements and skills, emphasizing correct body positions and execution.
7	Flexibility:	The range of motion and suppleness of a gymnast's joints and muscles, which is essential for performing various skills and movements.
8	Spotter:	An individual, often a coach or instructor, who assists gymnasts during training by providing support and guidance to ensure their safety.
9	Mount:	A mount is the skill used to get on the apparatus. Mounts are needed for Balance Beam and Uneven Bars.
10	Vault:	An apparatus in gymnastics consisting of a springboard and a stationary platform, used for performing powerful jumps and various flips and twists.

Notes:

Section 3	
Quiz QR Code	Quiz Link
	Quiz Link

Judaism

- God is **transcendent** (beyond space and time, controlled and by neither of these).
- Both Jews and Christians believe God created the world.
- Genesis 1: 1-31 - describes God's creation of the universe over a period of six days, starting with day and night and ending with the creation of human beings
- The seventh day is the day of rest.
- Some believe the story **literally**: that is, that it tells us exactly how creation happened and the authors of the writings in the Bible were directly inspired by God.
- Many others think that the story is a **myth**: that is, a fictional story with a profound message, delivered through symbolism. It is the message that the symbol represents that is important rather than the what.

God the Creator: the Story of Adam and Eve can also be taken **literally** or as a **metaphor**

- metaphor = to show us how true freedom always has boundaries.
- According to the Bible God made Adam out of dust from the earth - different to how he made everything else.
- God made Eve from Adam's rib so he would have companionship.
- Lucifer was not satisfied and disguised as a serpent convinced Eve **disobeyed** God and ate fruit from the tree of knowledge
- Eve gave the fruit to Adam. They both became ashamed by their nakedness.
- Adam and Eve banned from the garden and original sin is born

A **sacrificial lamb** is a **metaphor** to a person or animal sacrificed for the **common good**. The term comes from the traditions of the **Abrahamic religions** where a lamb is a highly valued possession and would be sacrificed as an **act of atonement** for people's wrongs.

Passover (Pesach) is one of the most important festivals in Judaism. It remembers the Biblical story of the **Exodus**, when Jewish people were enslaved by Pharaoh but freed from slavery by **Moses**. The angle of death passed over the homes marked by **lamb's blood**.

Christianity

The phrase "**Good Samaritan**", meaning someone who helps a stranger. Many hospitals and charitable organizations are named after this.

Gospel of Luke

The Parable of the Prodigal Son the father forgives and welcomes his son when he returns home. Same as God waits for humans to realise what they have done wrong and ask for forgiveness.

Baptism

- Up to age 30 Jesus led a fairly uneventful life.
- He is baptised in the River Jordan by his cousin, John.
- The baptism marks transition from carpenter to teacher.
- Matthew said a voice came down and declared Jesus the beloved son.
- Baptism is a spiritual clean. The water acts to cleanse the soul and brings about forgiveness for their sins.

Jesus' Apostles:

Matthew, Mark, Luke and John

"For God so loved the world that he have his one and only Son, that whoever believed in him shall not perish but have eternal life" John (3:16)

Christians believe that the death of Jesus was central to **God's plan of salvation**. Christians take refuge in believing that Jesus knew he was carrying out God's will. This knowledge got Jesus through the **arrest**, the **trials**, the **flogging** and the **crucifixion**. This is why the **cross** is a **symbol of inspiration**.

Holy Week:

Last Supper, Arrest, Trail, Crucifixion, Resurrection

Christians often see **Jesus' death as an atonement**. Jesus was the sacrificial lamb.

Evil & Suffering

Humans have **free will** and is the result of Adam and Eve's disobedience. According to Christianity there are 2 types of evil:

Moral evil – human act of wickedness which leads to the suffering of another human and/or themselves

Natural evil – suffering caused by natural events, such as earthquakes or tsunamis

Some suggested explanations as to why God allows suffering:

- Suffering is a **punishment** for wrong doing.
- Suffering is a **test** of faith in God.
- Suffering is a form of **education**. To grow spiritually and learn to take responsibility and help others.
- Suffering is needed as a **balance**. In order to appreciate good, we need to recognise evil or bad.

God as **Omnipotent** 'all-powerful'. God as **Omnibenevolent** 'all-loving'

The Book of
JOB



Tier 2 Vocabulary		
Key word		Definition
1	Metaphor	A word or phrase that is not literal.
2	Atonement	The reconciliation of God with humankind.
3	Allah	The God of Islam.
4	Literal	Representing the exact meaning of a word.
5	Moral evil	Suffering created by people (murder, racism).
6	Natural evil	Suffering created by natural events (volcano, tsunami).
7	Gospel	‘The good news’, stories about Jesus told by the Apostles.
8	Parable	A story that has a moral meaning.
9	Samaritan	Someone who helps a stranger.
10	Prodigal	Wasteful, reckless (spending money without thought).
11	Exodus	A mass departure of people.
12	Pesach (Passover)	Jewish festival to commemorate the liberation of the Israelites from Egypt.

Notes:

Quiz QR Code	Quiz Link
	Quiz Link

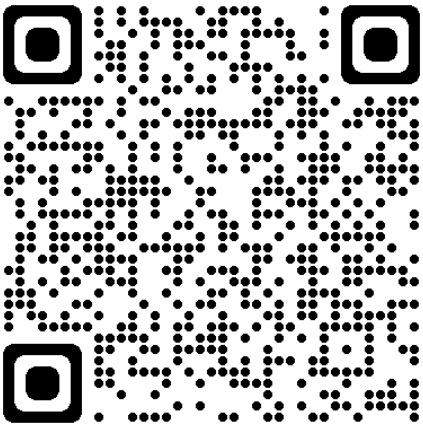
Key Points

Examples of waves include: light, sound, ocean waves, radio waves, ultraviolet radiation and more.

All waves transfer energy from one place to another.

There are two types of waves:

1. Longitudinal waves
2. Transverse waves



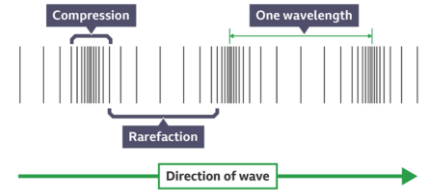
[Link to BBC
Bitesize
\(Waves\)](#)

Longitudinal Waves

The following types of waves are longitudinal waves:

- sound waves
- pressure waves
- primary waves (a type of seismic wave produced by earthquakes)

In a **longitudinal** wave, oscillation (vibration) is parallel to the direction of energy transfer.

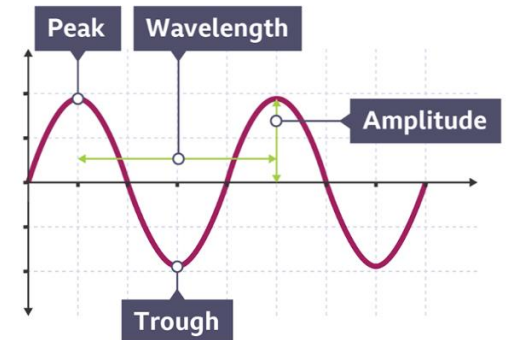


Transverse Waves

The following types of waves are **transverse waves**:

- ocean waves
- light waves
- microwaves
- radio waves
- ultraviolet radiation

In a **transverse wave**, the oscillation (vibration) is at right angles to the direction of energy transfer.



Key Points

- White light is made of a spectrum of different colours.
- Light can be split up into these separate colours using a prism.
- There are three primary colours of light, which can be combined to make secondary colours.

Dispersion

- White light can be split up into a spectrum of these colours using a triangular block of glass or acrylic, known as a **prism**.
- Light is refracted when it enters the prism, and each colour is refracted by a different amount. This means that the light leaving the prism is spread out into its different colours, a process called dispersion.

The spectrum of visible light

- White light is made up of many different colours, each with a different.
- White light can be split up to produce a spectrum containing all the different colours of visible light.
- There are seven colours of the visible light spectrum. In order of their frequency, from the lowest frequency (fewest waves per second) to the highest frequency (most waves per second), they are:
- Red Orange Yellow Green Blue Indigo Violet
- A mnemonic can be used to remember these colours in the correct order, for example:

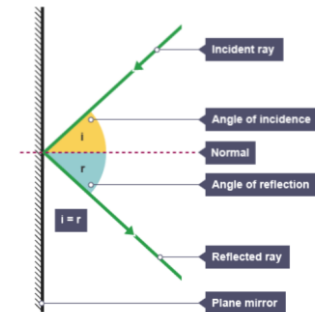
Richard Of York Gave Battle In Vain



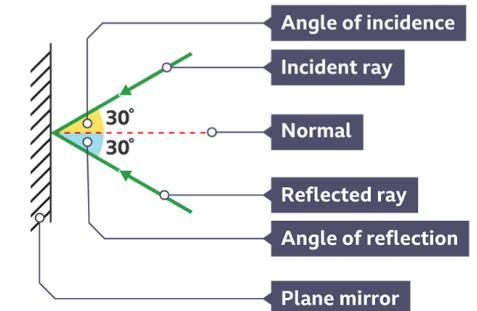
Red Orange Yellow Green Blue Indigo Violet

Reflection

- When light hits a mirror, it reflects from the surface of the mirror

Ray Diagram:Refraction

- The angle the ray is reflected is always the same as the angle the light hits the mirror, with both angles being measured from the normal.



Key Points

- A sound wave is a vibration that travels through a solid, liquid or gas such as the air or water.
- Sounds travel at different speeds through gases, solids and liquids.
- In air sound travels at 340 m/s (metres per second).
- A loud sound has a large amplitude, a high pitched sound has a high frequency.

You can work out the speed of sound using the equation:

$$\text{Speed} = \text{distance} \div \text{time}$$

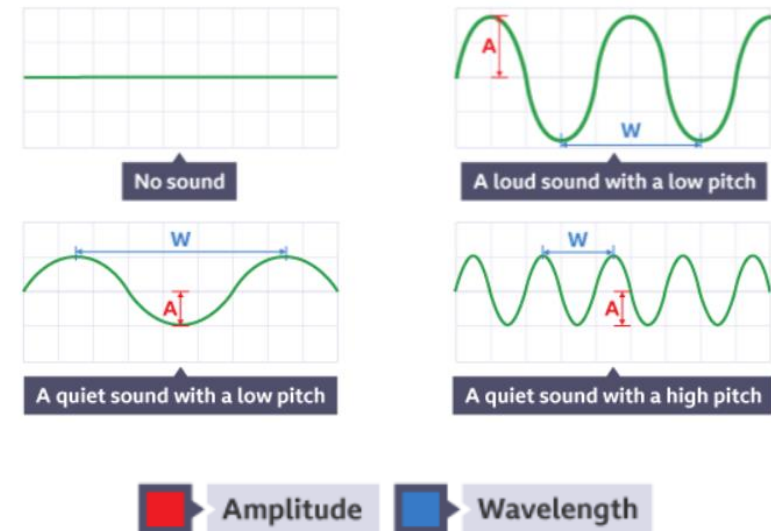
Material	Speed of sound
Air (a gas)	340 m/s
Water (a liquid)	1500 m/s
Wood (a solid)	3900 m/s
Space (a vacuum)	Sound cannot travel

Loudness and Pitch

- The **loudness** of a sound depends on how big the vibration of the air is.
- If air particles move back and forth a lot we hear a loud sound.
- If the source of a sound makes the particles vibrate more gently, we hear a quieter sound.
- The **pitch** of a sound depends on how quickly the air vibrates.
- When air particles move back and forth quickly we hear a high pitch sound.
- When the air vibrates less quickly we hear a low pitch sound.
- The number of vibrations each second is called the frequency and is measured in a unit called Hertz (Hz).
- The lowest pitch sound that most humans can hear is 20 Hz. The highest pitch sound the average human can hear is 20,000 Hz.

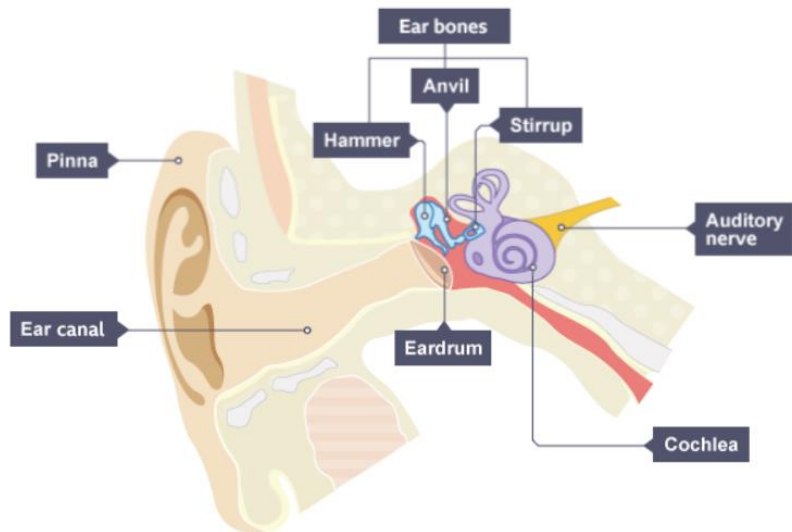
Echos

- You hear an echo when a sound bounces off something and comes back to your ear.
- An echo is made by a sound wave reflecting off a surface.
- The sound has to travel there and back, therefore, the distance travelled by the sound for an echo is twice the distance of the surface that it is bouncing off of.

Wave Traces

Key Points

- We can hear sounds because our ears turn sound vibrations from the air, into signals that are sent to our brain.
- We can't hear all levels of sounds. Sound waves with very high frequencies are called ultrasound and our ears can't detect them.
- Ultrasound waves have multiple uses including: detecting medical conditions, treating kidney stones and cleaning delicate objects.



Parts of the Ear

We detect sounds because inside our ears we have parts that work together to turn sound waves into a signal that is sent to our brain.

The components of the ear that make this possible are:

- **The eardrum:** A thin flap of skin that is stretched tight like a drum.
- **The ear bones:** Three small bones called the hammer, anvil and stirrup.
- **The cochlea:** A spiral shaped part of the ear that looks a bit like a snail shell.
- **The auditory nerve:** The nerve that carries signals from the cochlea to the brain.
- **The Pinna:** The visible portion of the outer ear

How we Hear

When a sound reaches us, the air particles inside our ear canal vibrate and hit the eardrum.

The eardrum then starts vibrating and these vibrations are passed to three small ear bones – called the hammer, anvil and stirrup.

The stirrup bone hits the cochlea, which turns the vibrations into an electrical signal that is sent to our brain via the auditory nerve.


When the signal reaches our brain, our brain translates the signal into the sound we hear.

Ultrasound

- The lowest pitch sound that most humans can hear is 20 Hz. The highest pitch sound the average human can hear is 20,000 Hz (20kHz).
- If the vibrations of a sound wave have a frequency that is higher than 20,000 Hz (20 kHz) our ears can't detect them and it is called ultrasound.

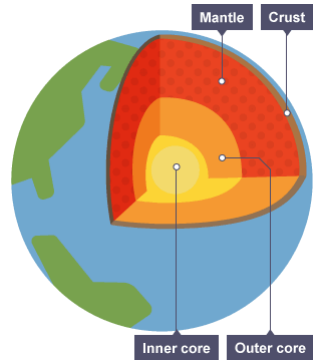
Tier 3 Vocabulary			
Key word			Definition
1	Transverse Waves	Wavelength	The distance from one peak to the next peak is called the wavelength. The wavelength of a wave could also be measured from one trough to the next trough, or from any point on the wave to the same point on the next cycle of the wave.
2		Peak	The highest point of a transverse wave is called a peak, like the highest point of a mountain.
3		Trough	The lowest point of a transverse wave is called a trough because it makes the shape of a trough that an animal might eat from.
4		Amplitude	The distance from a peak or a trough, to the rest position is called the amplitude of the wave. A wave with tall peaks has a large amplitude.
5	Longitudinal Waves	Compression	A region of high pressure, where the particles are closer together than normal.
6		Rarefaction	A region of low pressure, where the particles are further apart than normal.
7		Amplitude	The maximum distance a particle moves from its rest position.
8		Wavelength	The distance from the centre of one compression to the centre of the next compression is called the wavelength. The wavelength of a longitudinal wave could also be measured from the centre of a rarefaction to the centre of the next rarefaction.

Notes:

Quiz QR Code	Quiz Link
	Quiz Link

Atmosphere

- The Earth has a layered structure made up of the core, the mantle and the crust.



Atmosphere

- The Earth's atmosphere is the relatively thin layer of gases surrounding the planet.
- The atmosphere is a mixture of gases.
- The atmosphere is mostly nitrogen (approximately 80%) and oxygen (approximately 20%).
- Oxygen in the atmosphere is essential for all living things to stay alive, and for the combustion (burning) of fuels

Types of Rocks

There are three types of rock found on Earth. These are **igneous**, **metamorphic** and **sedimentary**.

Igneous Rocks

Igneous rocks are formed from molten (liquid) rock that has cooled and solidified.

Extrusive Igneous Rock

Extrusive igneous rocks are formed by magma that has erupted onto the surface as lava and then cooled quickly (e.g. Obsidian).

Intrusive Igneous Rock

Intrusive igneous rocks are formed by magma that has cooled slowly, deep underground (e.g. Granite).

Sedimentary Rocks

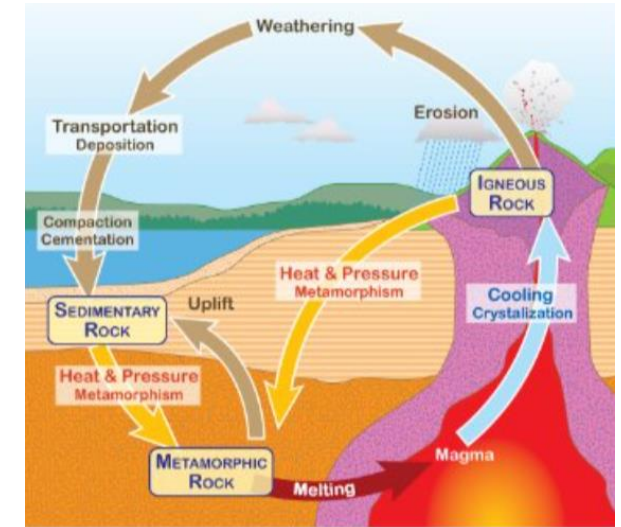
The grains in sedimentary rocks are arranged in layers. The oldest layers are at the bottom and the youngest layers are at the top (e.g. limestone).

There are five processes that make a sedimentary rock:
transport → deposition → sedimentation → compaction → cementation

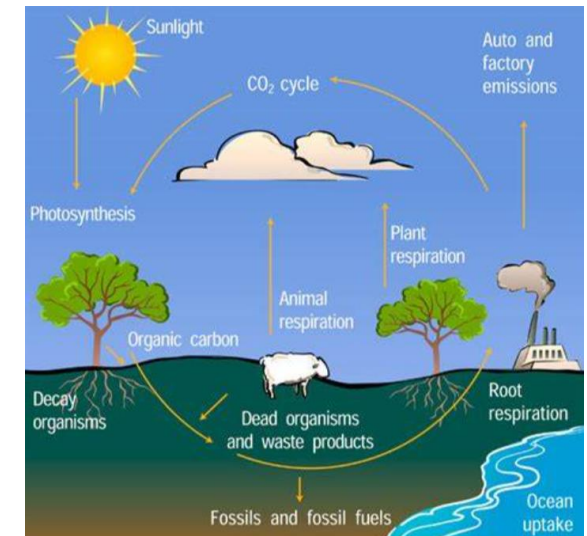
Metamorphic rocks

Metamorphic rocks are formed from other rocks which change due to heat or pressure.

Rock Cycle



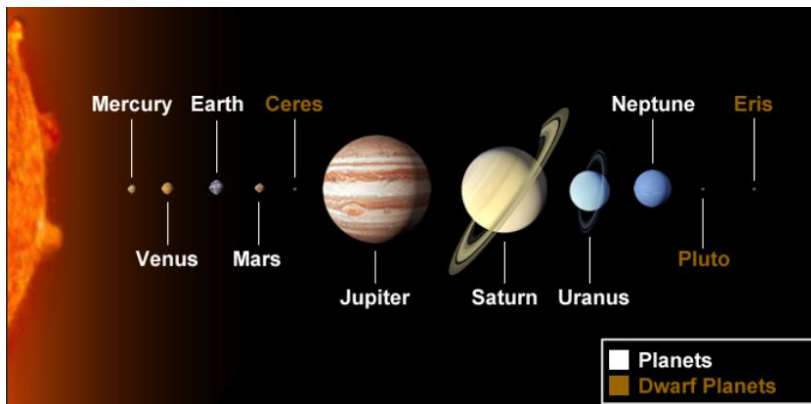
Carbon Cycle



Key Points

- The solar system is made up of the Sun (our nearest star) and the objects that orbit around it, including planets, asteroids and comets.
- Planets orbit the Sun in roughly circular paths, and moons orbit around planets.
- Asteroids and comets move in paths which are more oval in shape.
- The Sun's gravity holds all of these objects together, and the gravitational forces between objects can cause less massive objects to orbit more massive objects

The Planets



The Solar System

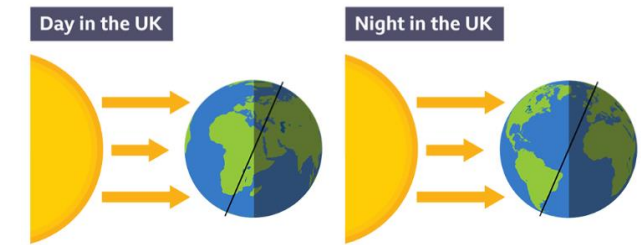
- The term solar system means the Sun and all the objects that orbit around it:
 - Planets
 - Moons
 - Asteroids
 - Comets
 - Gases
 - Dust
- At the centre of the solar system is the Sun – our nearest star.

Artificial Satellites

- In addition to planets and moons, many artificial satellites orbit around the Sun and the planets.
- These are objects or machines that have intentionally been launched into orbit.
- Artificial satellites have many uses, including: navigation, observing Earth, monitoring weather, space telescopes, and relaying communications signals. Some satellites, like the International Space Station, even carry humans.

Day and Night

- The Earth rotates in front of the Sun on an imaginary line called its axis.
- It takes 24 hours or one day to make a rotation.
- When parts of the Earth face the Sun, it's daytime. When they are in the shade, it's night time.




Seasons

- Earth takes approximately 365 days to orbit once around the Sun. This length of time is called a year.
- As Earth moves through its orbit around the Sun, different parts of the planet are tilted closer or further from the Sun, because of the tilt in Earth's axis. It is the angle of the Earth's tilt that causes the seasons: spring, summer, autumn and winter.

Tier 3 Vocabulary		
Key word		Definition
1	Atmosphere	The layer of gases surrounding a celestial body, such as Earth, retained by gravity. Earth's atmosphere is composed of various gases, including nitrogen, oxygen, and carbon dioxide
2	Igneous Rocks	Igneous rocks are formed from the cooling and solidification of molten magma or lava.
3	Sedimentary Rock	Sedimentary rocks are formed through the accumulation and cementation of sediments, such as sand, mud, and organic matter. Over time, these sediments compact and harden into rocks.
4	Metamorphic Rocks	Metamorphic rocks result from the transformation of existing rocks (igneous, sedimentary, or other metamorphic rocks) due to high temperature and pressure.
5	Rock Cycle	The rock cycle is a continuous process that describes the formation, alteration, and reformation of rocks over geological time.
6	Solar System	A system consisting of a star (in our case, the Sun) and the celestial objects, including planets, moons, asteroids, and comets, that are bound to it by gravity.
7	Orbit	The curved path that an object takes around another object in space, typically referring to the path of a celestial body around a star.
8	Axis	An imaginary line that runs through the center of rotation of a celestial body, such as Earth, around which it spins.
9	Rotation	The spinning of a celestial body, such as Earth, around its own axis. Earth's rotation causes day and night.

Notes:

Quiz QR Code	Quiz Link
	Quiz Link

A blank graphic organizer template for vocabulary study. It features a central rounded rectangle labeled "word". Surrounding this central box are four quadrants, each with a label and horizontal lines for writing:

- definition** (top-left quadrant)
- synonyms** (top-right quadrant)
- sentence** (bottom-left quadrant)
- antonyms** (bottom-right quadrant)

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).

definition

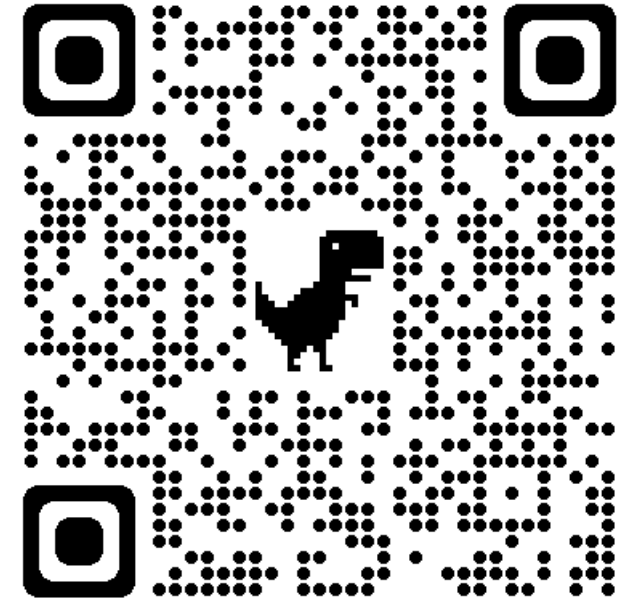
synonyms

adjacent

sentence

antonyms

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

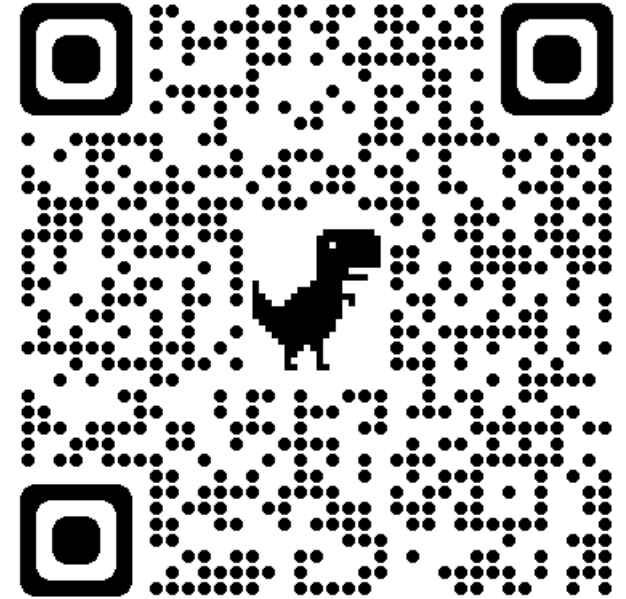


Scan to view thesaurus

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[illegible]

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

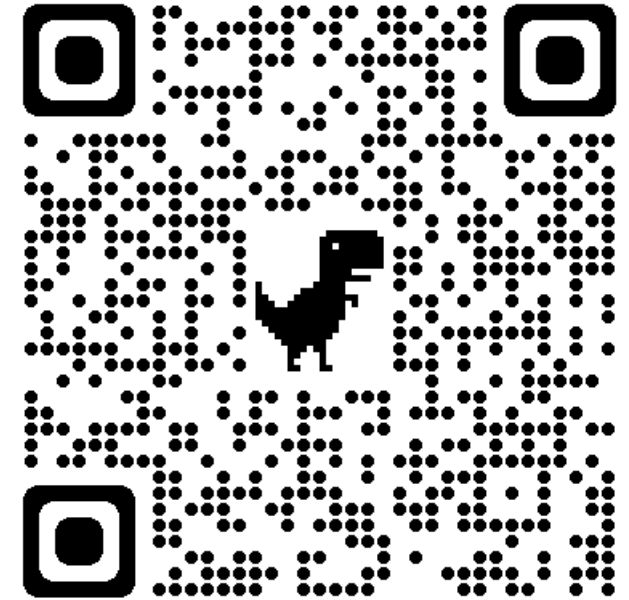


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[illegible]

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

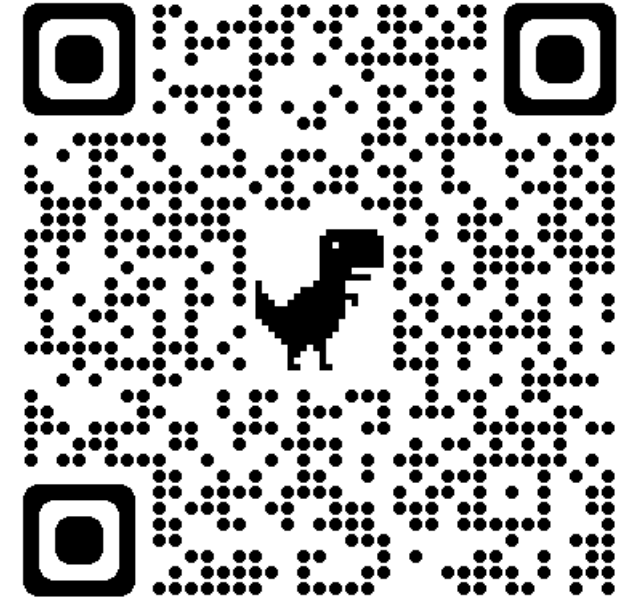


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[illegible]

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

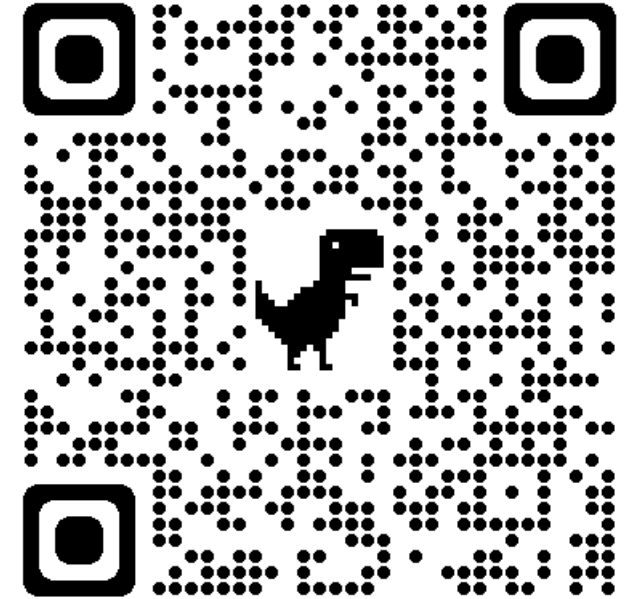


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A blank graphic organizer template. In the center is a rounded rectangle labeled "pivotal". Four lines extend from this central box to the corners of a larger rounded rectangle, dividing the space into four quadrants. The top-left quadrant is labeled "definition", the top-right is labeled "synonyms", the bottom-left is labeled "sentence", and the bottom-right is labeled "antonyms". Each quadrant contains several horizontal lines for writing.

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

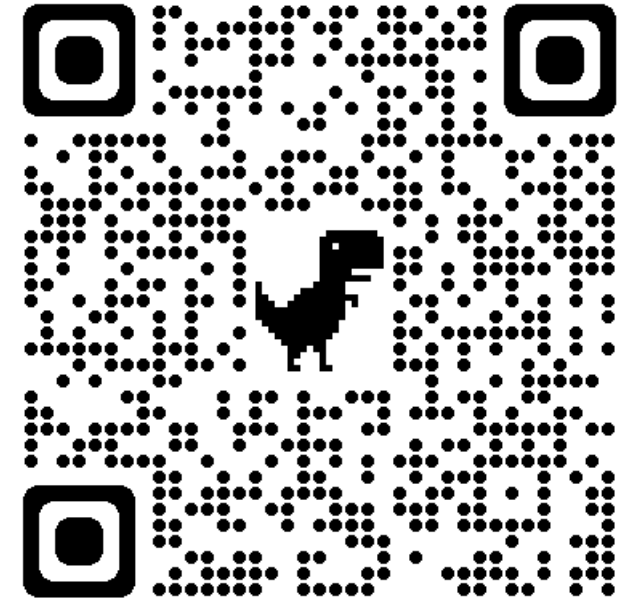


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[illegible]

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

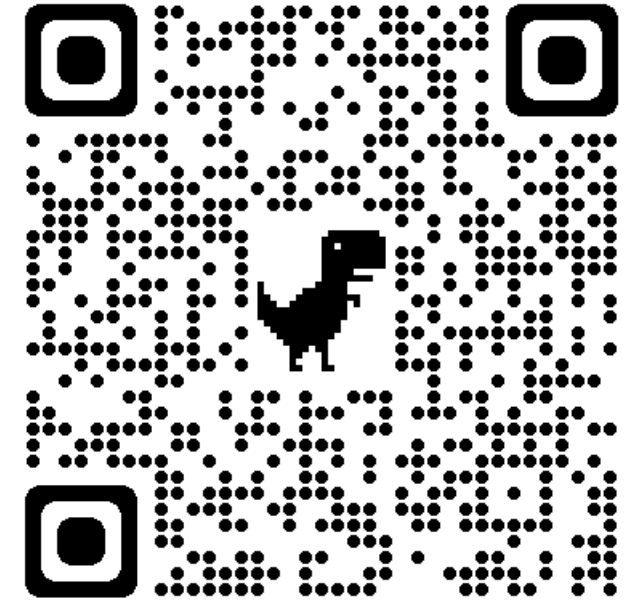


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[illegible]

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



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definition

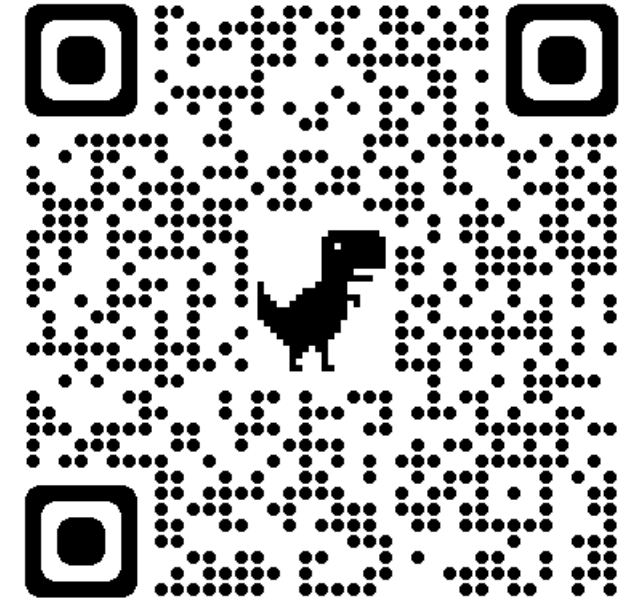
synonyms

era

sentence

antonyms

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



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definition

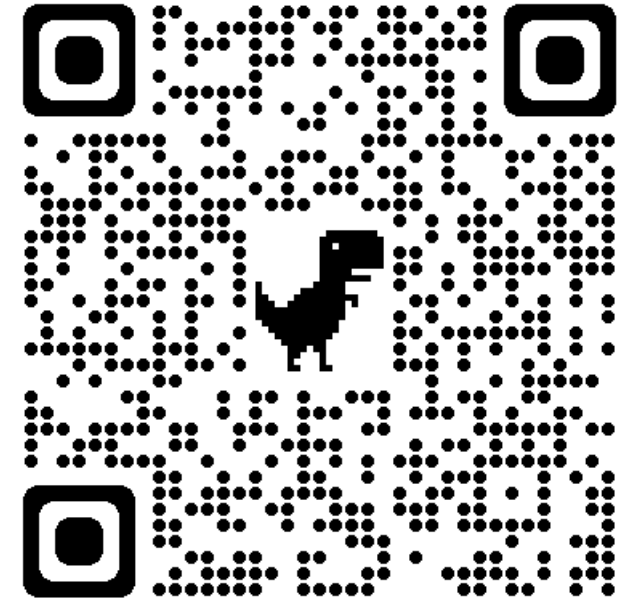
synonyms

analogy

sentence

antonyms

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

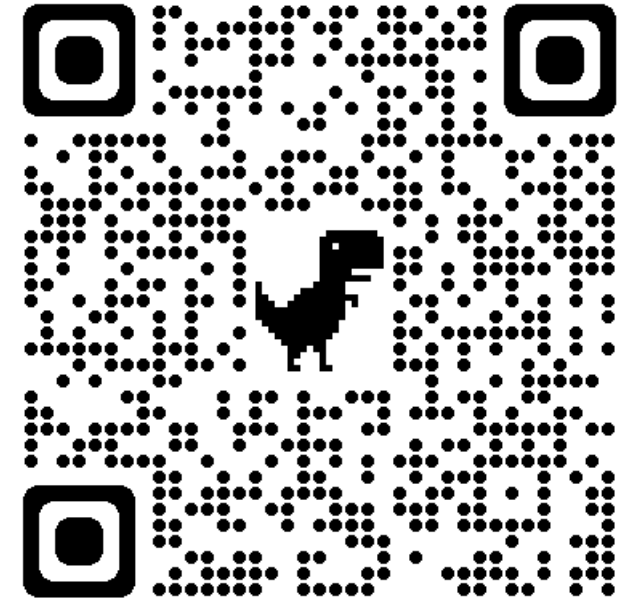


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[illegible]

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



Scan to view thesaurus

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[illegible]

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

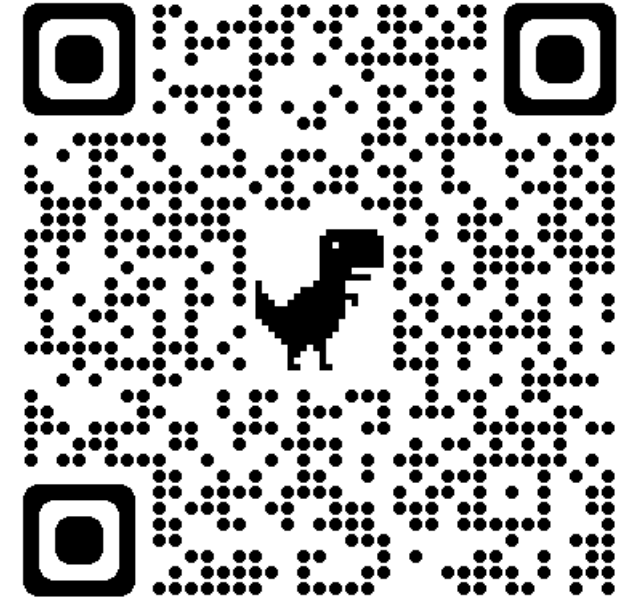


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definition		synonyms
	insinuate	
sentence		antonyms

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



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