Y7 KNOWLEDGE ORGANISER

SEPTEMBER 2024 TO FEBRUARY 2025

"If you are not willing to learn, no one can help you.
If you are determined to learn, no one can stop you."

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Name: .....

Tutor Group: .....

Tutor & Room: .....

Contents

Your Knowledge Organiser and Self-Quizzing Book

Remember!

You **must** bring your Knowledge Organiser and Self-Quizzing Book to every lesson and place it on your desk at the beginning of each lesson.

You **must** keep all of your Knowledge Organisers and Self- Quizzing Books because the fundamental knowledge required in Year 7 will also be required in Years 8-11.

Knowledge Organisers are **NOT** a replacement for revision guides but they include the fundamental knowledge that ALL students in Year 7 require.

Knowledge Organisers

Knowledge Organisers contain critical, fundamental knowledge that you MUST know in order to be successful in Year 7 and subsequent years.

They will help you recap, revisit and revise what you have learnt in lessons in order to move the knowledge within from your short-term memory to long-term memory.

Self-Quizzing Book

This is the book that all Knowledge Organiser homework is to be completed in. You must follow the simple rules as to how they are to be used.

How do I complete Knowledge Organiser homeworks?

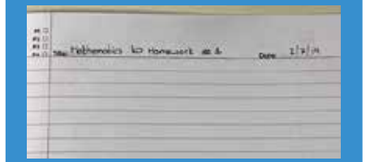
You will be set a MINIMUM of 2 Knowledge Organiser homeworks in every subject each half term

STEP 1

Check SMHW and identify what words/definitions/facts you have been asked to learn.

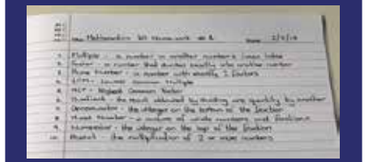
STEP 2

Write today's date and the title from your Knowledge Organiser.



STEP 3

Write out the key words/definitions/facts you have been set from SMHW in FULL.

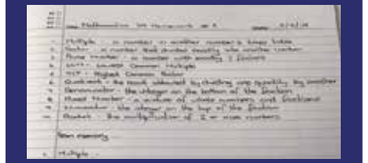


STEP 4

Cover the definitions in your SELF-QUIZZING BOOK, apart from the first. Read it, Cover it, Say it in your head, Check it… REPEAT until confident.

STEP 5

Cover up ALL the definitions/facts and write them out from memory in your SELF-QUIZZING BOOK.



STEP 6

Check your answers and correct where required. Repeat Steps 4 to 6 until you are confident.

You will be tested on the 10 words/definitions/facts as a starter activity in your lesson on the day that the homework is due.

This will be completed in your self-quizzing book and you will mark it in class.

Can I write in paragraphs?

The TIPTOP rule

You move onto a new paragraph when you change **T**ime, **P**lace, **T**opic or **P**erson.

1. I always start an essay with **an introduction** which addresses the question.
2. I finish an essay with **a conclusion** to summarise the main points of my argument and to address the question again.
3. I use **connectives** in each paragraph to link my ideas and to put them in a logical order.

Furthermore	But	Meanwhile
Whereas	Since	Nonetheless
Nevertheless	Yet	However
Alternatively	Therefore	Although
Consequently	Besides	Moreover

Have I used the correct grammar?

I am aware that I must use language that is appropriate to my reader.

- **No slang** that lesson was ~~bangin'~~
- **No informal language** I'm ~~gonna~~ do my homework now

Other things to consider:

- ✓ I am clear about the **purpose** of this piece of writing
- ✓ I know who my **audience** is
- ✓ I will use a suitable **layout** and **text type**

I am proud of my work because...

- I have written clearly so that my reader can understand my writing easily.
- I have checked my **spelling** and corrected any errors.
- I have used full sentences with a subject and a verb.
- I have used correct **punctuation** and **grammar**.
- I have paragraphed my work using **TIPTOP**.
- My writing is suitable for the person I am writing for.

Can I spell familiar words accurately?

Common contractions

We must use an apostrophe to replace any letter(s) we have left out.

11 o'clock	How's	They'd	Where'll
Aren't	I'd	They'll	Where's
Can't	I'll	They're	Who'd
Couldn't	I'm	Wasn't	Who'll
Didn't	Isn't	We'd	Who's
Doesn't	It'd	We'll	Why'd
Don't	It'll	We're	Why'll
Hadn't	It's	Weren't	Why's
Hasn't	Mightn't	What'd	Won't
Haven't	Mustn't	What'll	Wouldn't
He'd	Shan't	What's	You'd
He'll	She'd	When'd	You'll
He's	She'll	When'll	You're
How'd	She's	When's	
How'll	Shouldn't	Where'd	

Homophones

I have checked that I have not mixed up my homophones.

Affect/effect	One/won
Bare/bear	Passed/past
Brake/break	Peace/piece
Buy/by	Practice (n)/practise (v)
For/four	Read/red
Flour/flower	Sea/see
Grate/great	Sight/site
Hair/hare	Son/sun
Hole/whole	To/too/two
Hour/our	Wait/weight
Knight/night	Weak/week
Know/no	Wear/where
Meat/meet	

Can I use different sentence types?

Simple sentences: Contains a subject and a verb and can contain an object

- Sarah likes to read in the library.
- Tom enjoys reading at home.

Compound sentences: Joins two simple sentences using the connectives: *for, and, nor, but, or, yet, so.*

- Sarah likes to read in the library but Tom prefers to read at home.

Complex sentences: A complex sentence contains a conjunction such as *because, since, after, although,* or *when.*

- Because Robert felt tired, he only studied for an hour.
- Although the rain had stopped, the pitch was still water-logged.
- Paul enjoys Music, however, he is more proficient in Art.

Basics:

- Every sentence must start with a capital letter.
- Every sentence must finish with some form of punctuation: .?!
- Proper nouns need capital letters. These are **unique** people, places or things e.g. there are many cities so 'city' doesn't take a capital letter. However there is only one London, therefore it takes a capital letter.

➔ **When writing titles of works such as books, films or plays:**

- Capitalise the first word
- Capitalise any main/important words
- Don't capitalise minor words such as 'and', 'of' or 'the' e.g. The Sound of Music, The Wizard of Oz, Harry Potter and the Goblet of Fire

➔ **When writing speech:**

- Go to a new line when a different person speaks e.g. *"Good morning,"* said the headteacher. *"It's the afternoon!"* replied the student.
- Each person's speech is marked with speech marks e.g. *"Walk on the left,"* said Mr Mathews.

Can I spell accurately?

1. Sound out the word.
2. Think about how it looks.
3. Think about a similar word.
4. Is there a memory sentence for this word? (e.g. big elephants cannot always use small exits).
5. Find the word in a list –
   - Key words list.
   - Frequently used words list.
   - Your own word bank.
6. Look it up in a dictionary/ spellchecker.
7. Ask a friend or teacher.
8. To learn it: look, cover, write, check.
9. Once you've solved it, add the correct spelling to your own word bank.

Can I use punctuation?

The Apostrophe

I always aim to use apostrophes correctly.

There are two main reasons why we use apostrophes: for possession and to replace a letter or letters.

Note: Apostrophes are **NEVER** used to denote plurals

Full stop	.	indicates that a sentence has finished.
Comma	,	indicates a slight pause in a sentence, separates clauses in a complex sentence anditems in a list.
Question mark	?	goes at the end of a question.
Exclamation mark	!	goes at the end of a dramatic sentence to show surprise or shock.
Apostrophe	'	shows that letter(s) have been left out or indicates possession.
Speech marks	""	indicate direct speech, the exact words spoken or being quoted.
Colon	:	introduces a list, a statement or a quote in a sentence.
Semicolon	;	separates two sentences that are related and of equal importance.
Dash / hyphen	-	separates extra information from the main clause by holding words apart.
Brackets	()	can be used like dashes, they separate off extra information from the main clause.
Ellipsis	...	to show a passage of time, to hook the reader in and create suspense.

Can I use punctuation?

Apostrophe for Possession

(To show that something belongs to another)

If a single thing/person owns anything, add an apostrophe + 's'.

- The dog's bone
- The boy's homework
- Jones's bakery
- Yesterday's lesson

However, if it is plural (more than one), an apostrophe comes after the 's'.

- The dogs' bones
- The boys' homework
- Joneses' bakeries (lots of Jones families)
- Many websites' content is educational

There/their/they're

Note: special care must be taken over the use of there, their and they're as they sound the same but are used quite differently:

- **There** shows position Your seat is over there.
- **Their shows that 'they' own something** *Their blazers are navy blue.*
- **They're** is short for **they are** as in *They're revising every day.*

Its

Note: its, which shows that something owns something (like our, his etc), **does not** take an apostrophe: the dog ate its bone and we ate our dinner.

Your/you're

Note: special care must be taken over the use of **your** and **you're** as they sound the same but are used quite differently:

- **Your** is possessive as in *this is your pen.*
- **You're** is short for you are as in *you're coming over to my house.*

1. The Formal Elements

Line: Creates shape; the outer edge of something.

Tone: Levels of dark or light on an object, shape or face.

Highlight: The lightest areas on an object, shape or face.

Texture: The feel or appearance of a surface; how rough or smooth it is.

Shape and Form: What is created when a line is enclosed and further techniques are used to make an object, shape or face look 3D.

2. Colour Theory

Colour: When light is reflected off an object, colour is what the eye sees.

The Primary Colours are red, blue and yellow. The primary colours are combined to create secondary colours.

The Secondary Colours are green, purple and orange.
Red + Blue = Purple.
Blue + Yellow = Green.
Yellow + Red = Orange.

Warm Colours: Colours that give the feeling of warmth – red, orange, yellow.

Cool colours: Colours that give a cool feeling – blue, green, purple.

Complementary colours: These colours are ***opposite each other*** on the colour wheel. When placed together these colours ***complement*** each other - they contrast and make each other stand out.

Harmonious colours: These colours are ***next to each other*** on the colour wheel. When these colours are placed together they work in harmony with each other - these colours look similar to each other.

Tint: When ***white*** is mixed with a colour to make it lighter.

Shade: When ***black*** is mixed with a colour to make it darker.

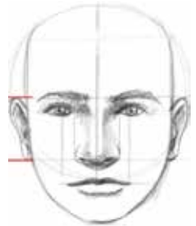
3. The Colour Wheel

4. Techniques and Materials: Pencil and Oil Pastel Drawing

- **Whisper Lines:** These are ***light*** pencil lines created using ***several strokes*** of the pencil. These are used when planning out a drawing prior to adding tone, colour or collage.
- **Shading:** Is a technique used to create tone. This helps create the illusion of depth and 3D form. In a pencil drawing, shading is made by applying the most pressure at the point where the shadow is dark and less pressure to show light tones.
- **Smudging:** Is a shading technique used with soft pencil whereby a finger or tool is used to smudge the pencil to disguise the marks and blend tones together.
- **Fade:** This is a gradual transition from dark to light and is created by varying the pressure placed on the pencil or pastel.
- **Blend:** A blend is created by mixing two or more colours on the paper to create a gradual transition from one colour to another.
- **Highlights:** This is the lightest area on an object or face. The highlight is located on a surface where the light rays hit the form. On a face these areas are generally the forehead, nose, cheeks, chin and eyes.
- **Pencils, 4H, 2H, HB, 2B, 4B, 6B:** Drawing pencils have grades, ***H*** stands for 'Hard' and ***B*** stands for 'Black'. The higher the number the 'harder' (lighter) or 'softer' (darker) the pencil is. ***HB*** pencils are standard pencils and are good for creating whisper lines. ***2B, 4B, 6B*** are soft and good for shading and smudging.
- **Oil Pastels:** These are soft, waxy, coloured pastels that are great for blending and creating fades.

5. Other Terms and Techniques Relating to Portraiture

- **Portraiture:** The artistic process of creating a painting, drawing, photograph, or engraving of a person, especially one depicting only the face or head and shoulders.
- **Features:** Eyes, nose, mouth, ears, eyebrows etc.
- **Composition:** the arrangement or layout of features, shapes or objects on the page.
- **Proportion:** The size, shape or position ofone element of a portrait in comparison to another.
- **Foreground, mid-ground, background:** The areas at the front, middle or back of a drawing or painting.
- **Negative Space:** An area of the portrait without detail.



'Femme Assise, Robe Bleue'
By Pablo Picasso, 1939

6. Facts About Pablo Picasso

- Picasso was born on October 25, 1881 in the city of Malaga, Spain.
- His first word was "lapiz", the Spanish word for pencil.
- His father was an artist, art professor and museum curator.
- His father started teaching art to him when he was seven years old.
- Pablo completed his first painting when he was nine years old. The title of the painting was Le Picador. The image is of a man riding a horse in a bullfight.
- His father decided that he would give up painting when Picasso was 13 years old because he felt his son was already a better painter than him.
- Picasso was 15 when he finished First Communion, which was an extremely well-known portrait depicting his father, mother and sister.
- Picasso was a co-founder in the movement known as Cubism.
- The Nazis would not let Picasso display his paintings in Germany.
- Picasso's art work can be found in art museums throughout the world.
- Picasso passed away on April 8, 1973 in Mougins, France.

7. Words to describe art works

Element	Associated adjectives
Line	Thick, heavy, thin, light, bold, sharp, loose, crisp, curved, straight, organic.
Tone	Dark, light, mid, flat, uniform, broken, constant, graduated, fade, gradual fade, subtle, contrasting, dramatic.
Texture	Flat, smooth, raised, rough, coarse, pitted, scratched, uneven, uniform, hairy, soft, hard, flowing, movement.
Colour	Natural, unnatural, lively, bright, brilliant, deep, dull, earthy, warm, cold, contrasting, complementary, harmonious.
Composition	Centred, asymmetrical, symmetrical, balanced, unbalanced, lopsided, overlapping, cluttered, chaotic, spacious, empty, negative space.
Shape and Form	2-D, flat, abstracted, simplified, stylised, 3-D, realistic, natural, detailed, distorted, exaggerated, geometric.
Mood	Calm, peaceful, happy, joyful, romantic, gloomy, miserable, sad, sombre, exciting, thought-provoking, dream-like, surreal, mysterious, strange, confusing, playful, childish.

8. About This Painting

- The first step in becoming a professional portrait artist is to get a good Art education and become skilled in a variety of art techniques. In order to do this you would need to study Art at GCSE level then go onto to college and possibly university.
- In order to gain commissions (a commission is when a customer requests artwork from an artist), portrait artists are usually represented by a gallery or agent who promotes their work and arranges commissions for a fee.
- Often portrait artists, and artists in general, promote their work though their own websites, online galleries and social media; this way, there is no need to pay an agent or gallery.
- A good understanding of portraiture is valued in many creative industries such as hairdressing, make up and beauty, fashion and illustration. Element Associated adjectives 'Femme Assise, Robe Bleue' By Pablo Picasso, 1939 Art

9. Portrait Artist as a Career

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The Wolf Wilder

Feo and her mother live in the snowy woods of Russia, in a house full of food and fireplaces. Feo's mother is a wolf wilder, and Feo is a wolf wilder in training: a person who teaches tamed animals to be wild again, to fend for themselves, and to fight and to run.

When the corrupt Russian Army threatens her wolves and arrests her mum, Feo is left with no option but to go on the run. With her wolves by her side, she sets off on a daring, exciting and sometimes scary journey through the snow to St Petersburg, pursued by an evil general who's determined to kill Feo's wolves and stop her at all costs.

Genre: Fantasy

Good vs Evil
Heroes and villains
Individual struggle against power
A heroic quest
Magic

Sentence types:

Comma sandwich:
Feo, **who loved her wolves,** hated to see the beautiful creatures mistreated.

Three verbs:
He **tripped, slipped and strumbled** on the icy ground.

More more more/Less, less, less:
The **more** it rained, the **more** the wind blew, the **more** the quest seemed hopeless.

Creative Writing Devices

Sensory imagery	Describe the setting using the five senses: sight, sound, smell, taste, touch.
Simile	Compare two things using 'like' or 'as'.
Pathetic Fallacy	Match the weather to the mood of the action in the story
Personification	Describe objects as though they are alive with their own thoughts and feelings.

Structuring your story

Somewhere	Describe your setting
Someone	Introduce a character
Something	Describe an exciting event or problem
Solution	Show how the situation ends

Ambitious Vocabulary

Enchanting	Malicious
Mystical	Snarl
Revolution	Agitate
Gruelling	Quest
Aristocracy	Glacial
Tsar	Fractals
Cowardice	Piercing

Modern Novel The Wolf Wilder Topic Guide

1. Context

Author: Katherine Rundell (1987 -)
Nationality: British
Other notable works: 'Rooftoppers', 'The Girl, Savage', 'The Explorer'
Dates: Published in 2015
Genre: Adventure Fiction
Set: The snowbound woods of Russia. Ten minutes away, in a ruined chapel, lives a pack of wolves. Feodora's mother is a wolf wilder, and Feo is a wolf wilder in training.

Author biography:

- Katherine was born in Kent, England in 1987.
- She spent ten years in Harare, Zimbabwe, where her father was a diplomat.
- She completed her undergraduate studies at St Catherine's College, Oxford (2005 – 2008).First book, published in 2011, was The Girl Savage.
- Her second book, Rooftoppers, followed the adventures of Sophie, apparently orphaned in a shipwreck on her first birthday.
- The Wolf Wilder is her third novel.

Social & historical background:

- Set in the early part of the 20th Century before the 1st WW.
- Tsar Nicholas II is the Monarch of Russia and part of the Romanov family dynasty.
- The Tsar and his family live in the Winter Palace in St Petersburg.
- The Russian people are unhappy with the inequality of wealth and are threatening revolution.
- The wealthy Aristocracy are the ruling classes.
- The Russian Imperial Army are feared and used by the Tsar to maintain order.
- The Bolsheviks were a political faction led by Lenin who openly challenged the ruling of the Tsar.

2. Key Characters

Marina Petrovna: A wolf wilder
Feodora (Feo): A trainee wolf wilder
General Rakov: A General in the Russian Imperial Army
Ilya: A soldier in the Russian Imperial Army
Alexei Gastevski: A boy who supports the revolution
Sasha Gastevski: Alexei's sister
Valdimir Lenin: Bolshevik leader
Igor Darikev: Imperial Ballet School's Ballet Master

3. Key Terminology

Dialogue	Speech used within a narrative.
Literary conventions	Defining features of particular literary genres, such as novel, short story, ballad, sonnet, and play.
Third person narrative	A narrative or mode of storytelling which uses he/ she or the characters name.
Protagonist	The central character or leading figure in a poem, narrative, novel or any other story. Sometimes can also be referred to as a "hero" by the audience or readers.
Plot	The main events of a narrative.
Setting	The location(s) and time a narrative takes place in.
Characterisation	A description of a characters traits, thoughts, actions and points of view.
Foreshadowing	A literary device in which a writer gives an advance hint of what is to come later in the story.

4. Key Vocabulary

Aristocracy	A class of people who hold high social rank in society.
Tsar	A male Russian Ruler (until 1917).
Russian Imperial Army	The Army who is ruled by the Tsar.
Barracks	A building or group of buildings where soldiers live.
Revolution	A change in the way a country is governed, usually to a different political system and often using violence or war.
Bolshevik	A supporter of the group led by Lenin that took power in 1917.
Countess	A woman of high social rank or the wife of a Count or an Earl.
Wolf Wilder	A wolf wilder is the opposite of an animal tamer: it is a person who teaches tamed animals to fend for themselves, and to fight and to run, and to be wary of humans.
Rouble	Russian currency.
St Petersburg	A Russian city, which used to be the Imperial Capital – where the Tsar lived.
Kretsy Jail	A notorious prison in St. Petersburg.
Moscow	The capital city of Russia.
Borscht	A type of soup made from beetroot.
Requisitioners	People employed by the Russian Imperial Army to officially take possessions, food, animals off the general population.
Lapushka	A term of endearment which loosely translates as "little paw"

War poetry

Poem forms

Sonnet	Consists of 14 lines, usually about love. Strict rhyme scheme.
Elegy	A poem of serious reflection, typically a lament for the dead
Free verse	A poem that does not adhere to any particular rules or patterns.

Poet's Intentions

The poets show the horrific reality of war
To highlight patriotic attitudes
To show the devastating impact of war on individuals

Poem forms

Alliteration	Repetition of the initial consonant sound	**Enjambment**	Where a sentence runs onto the next line.
Caesura	A pause in a line by using punctuation	**Juxtaposition**	Where two contrasting ideas are put together to develop comparisons.
Couplet	Where two lines rhyme with each other	**Metaphor**	A comparison in which one thing is said to be another.
Emotive language	Words used to provoke an emotional response.	**Onomatopoeia**	A word that sounds like its meaning
Personification	Describing objects as though they are alive with their own thoughts and feelings.	**Rhetorical question**	A question asked to make the reader think, not requiring an answer.

Title	Quotes		
Anthem for Doomed Youth	What passing-bells for these who die as cattle?	Only the stuttering rifles' rapid rattle	The shrill, demented choirs of wailing shells
In Times of Peace	"heavy boots… stepping over bodies" "bubble bath"	"Are ears so tuned to sirens that the closing of wings causes a tremor?"	"How will it begin to deal with skin that threatens only to embrace?"
Sick Leave Seigfried Sassoon	When I'm asleep, dreaming and lulled and warm,- They come, the homeless ones	'Why are you here with all your watches ended? From Ypres to Frise we sought you in the Line.'	Are they not still your brothers through our blood?'
The Soldier Rupert Brooks	That there's some corner of a foreign field That is for ever England.	her flowers to love, her ways to roam, A body of England's, breathing English air	her flowers to love, her ways to roam, A body of England's, breathing English air
We Refugees Benjamin Zephaniah	I come from a musical place Where they shoot me for my song	We can all be refugees Nobody is safe,	We all came here from somewhere
Home Warsan Shire	no one leaves home unless home is the mouth of a shark	no one puts their children in a boatunless the water is safer than the land	no one could take it no one could stomach it no one skin would be tough enough

Poetry and Non-fiction – War and Conflict – Topic Guide

1. Context

Poet: Wilfred Owen (1893-1918) **Nationality:** English
Poem: 'Anthem for Doomed Youth'
Other notable poems/collections: 'Dulce et Decorum Est', 'Exposure', 'Strange Meeting','Poems' (1920) ed. by Siegfried Sassoon
Era: First World War Poet

Biography:
Born 18 March 1893 in Oswestry, Shropshire.
After school he became a teaching assistant. In 1913 he went to France for two years to work as a language tutor.
In 1915 he returned to England to enlist in the army and left for the Western Front early in January 1917.
After experiencing heavy fighting, he was diagnosed with shellshock.
He was sent to Craiglockhart War Hospital near Edinburgh.
In hospital he met the poet Siegfried Sassoon, who already had a reputation as a gifted poet and shared Owen's views and anger at the cruelty of war.
He returned to France in August 1918 and in October was awarded the Military Cross for bravery.
Just a week before the end of the war on 4 November 1918, Owen was killed while attempting to lead his men across the Sambre canal at Ors.

Poet: Siegfried Sassoon (1886-1967) **Nationality:** English
Poem: 'Sick Leave'
Other notable poems/collections: 'Memoirs of a Fox-hunting Man' (1928), 'Memoirs of an Infantry Officer' (1930)
Era: First World War Poet

Biography:
- Born in Kent on 8th September 1886.
- Studied at Cambridge University but left without a degree.
- In May 1915, commissioned into the Royal Welsh Fusiliers and went to France. He won two medals for bravery.
- His brother Hamo was killed in November 1915 at Gallipoli.
- In the summer of 1916 he was sent to England to recover from fever.
- Returned to the front, but was wounded in April 1917 and sent home.
- On his return he held meetings with several prominent pacifists.
- In June 1917 he wrote a letter, published in the Times, criticising the Government for prolonging the war unnecessarily.
- Robert Graves, friend and fellow poet, prevented him from being court-martialled by convincing the authorities that Sassoon had shell-shock.
- He was sent to Craiglockhart War Hospital for treatment.
- He was posted to Palestine and then returned to France where he was again wounded, spending the remainder of the war in England.
- He continued to write both prose and poetry until his death on 1st September 1967.

2. Key Terminology

alliteration	The repetition of the same consonant sound, often at the beginning of words.
allusion	An expression designed to call something to mind without mentioning it explicitly.
assonance	The repetition of a vowel sound for emphasis.
caesura	A rhythmical pause within a line of poetry expressed in writing by a piece of punctuation.
contrast	Placing words, lines, verses etc. together to emphasise their differences.
couplet	Two successive lines of verse of which the final words rhyme with another.
diction	A poet's choice of words such as verbs and adjectives to create a particular effect.
emotive language	Word choice which is used to evoke emotion in the reader.
enjambment	The overlapping of a sentence onto the following line, usually to emphasise a word or phrase at the start of a line or verse.
extended metaphor	A metaphor that is developed throughout a poem.
form	The way a poem is set out, or a term used to categorise poems which follow particular conventions.
free verse	Poetry that does not have a regular pattern of rhyme.
half-rhyme	Partial rhyme, which occurs when similar but not identical sounds are repeated.

2. Key Terminology continued....

iambic pentameter	A line of verse with five metrical feet, each consisting of one short (or unstressed) syllable followed by one long (or stressed) syllable, resulting in a line of 10 syllables.
image	A picture created with words, usually used to describe an imaginative comparison often using a simile or metaphor.
imagery	A literary device used to create a particular image to convey the key ideas/messages of themes in a text.
juxtaposition	When two or more ideas, images, words etc. are placed side by side to develop comparisons and contrasts.
metaphor	A comparison in which one thing is said to be another.
onomatopoeia	The use of a word that sounds like its meaning.
pace	The speed at which a poem flows.
persona	The 'speaker' in a poem who is a created character, not the poet.
personification	The attribution of human feelings, emotions, or sensations.
refrain	A recurring phrase or set of lines.
repetition	A literary device which repeats the same word or phrase a few times to make it memorable.
rhetorical question	A question asked for dramatic effect or to make a point rather than to receive an answer.
rhyme scheme	The pattern of a poem's rhyme, often identified using letters e.g. ABABCC.
rhythm	The 'movement' of the poem as created through the meter.

sibilance	A type of alliteration that uses soft consonants like s, sh, ch, th. They create hissing sounds.
simile	A comparison that uses 'like' or 'as'.
stanza	A group of lines forming a unit in a poem.
structure	The way a poem is organised.
symbolism	The use of symbols to express ideas or qualities.
tone	Feelings or ideas suggested by the language used by the poet.
verse	Another word for poetry; a group of lines forming a unit in.
volta	A 'turning point' in a poem.
FORM	
villanelle	A nineteen line poem consisting of five units of three lines, rhymed or unrhymed, followed by a quatrain.
sonnet	A poem that has 14 lines and a particular pattern of rhyme (ABAB CDCD EFEF GG).
elegy	A poem of serious reflection, typically a lament for the dead.
ballad	A narrative poem which is typically written in short stanzas.
dramatic monologue	A poem in which an imagined speaker addresses a silent listener, usually not the reader.

Ozymandias	"Colossal wreck"	"Look on my works"
The Prelude	"a huge peak, black and huge"	"trouble to my dreams"
Remains	"his bloody life in my bloody hands"	"the drink and drugs won't flush him out"
London	"mind-forged manacles"	"marks of weakness"
Tissue	"might fly our lives like paper kites"	"turned transparent with attention"
Poppies	"Gelled blackthorns of your hair"	"leaned against it like a wishbone"
The Emigree	"sunlight"	"time rolls its tanks"
Kamikaze	"powerful incantations"	"which had been the better way to die"
Exposure	"merciless iced east winds that knive us"	"But nothing happens"
My Last Duchess	"I gave commands; then all smiles stopped"	"I choose never to stoop"
Bayonet Charge	"His terror's touchy dynamite"	"listening between footfalls for the reason"
Checking out me History	"Blind me to me own identity"	"Carving out me own identity"
Charge of the Light Brigade	"The jaws of Death"	"theirs not to make reply"
Storm on the Island	"a huge nothing that we fear"	"spits like a tame cat turned savage"
War Photographer	"A hundred agonies in black and white"	"a half-formed ghost"

Structure and form	
First person	The speaker tells the story using 'I' and 'we'
Third person	The story is told by someone watching the action (omniscient narrator)
Stanza	A paragraph in a poem
Irregular Rhyme Scheme	The rhyme scheme changes
Regular Rhyme Scheme	The rhyme scheme remains consistent
Enjambment	There isn't punctuation at the end of a line or sentence making ideas run into each other
Caesura	There is an excess of punctuation increasing the pauses and separating the ideas.
Dramatic monologue	A story told in first person and chronological order
Sonnet	A fourteen-line poem that often has a mood change between lines 9 and 11.

What is seasonal food?

Seasonal food is the time of year when food is at its best, in terms of flavour or harvest. Many foods are available all year, as they are imported from other countries. When local seasonal food is available it tends to be fresher and cheaper - there has been less travel/storage from farm to fork.

Why eat the seasons?

There are a number of good reasons to eat more local, seasonal food:

- To reduce the energy (and associated CO2 emissions) needed to grow and transport the food (diesel, petrol, electricity etc.) we eat to avoid paying a premium for food that is scarcer or has travelled a long way
- To support the local economy (our local area – jobs, businesses etc.)
- To reconnect with nature's cycles and the passing of time. But most importantly, seasonal food is fresher and so tends to be tastier and more nutritious.

Why seasonal food?

Foods are usually harvested when they are at their peak and typically have the most flavour and nutrients, so the food tends to be tastier, healthier and better for the environment. Take a look at the seasons to see when different foods are at their best. Eat seasonal foods.

Hygiene	Safety
• Wash hands before beginning practical work. • Tie long hair back. • Do not wear nail varnish. • Remove jewellery. • Always wear an apron. • Do not cough or sneeze on food. • Do not lick fingers or utensils. • Make sure all equipment is washed and dried thoroughly. • Clean all worktops at the end of the lesson.	• Do not run in the kitchen. • Use safe chopping techniques such as the bridge hold and claw grip. • Mop up spills immediately. • Turn pan handles to the side of the hob. • Take care with electrical items. • Use oven gloves to remove food from the oven. • Report any problems to the teacher. • Do not drop sharp knives into your washing up water. Wash them carefully using a cloth and soapy water over the sink.

What is the Eatwell Guide?

The Eatwell guide is a guide that shows you the different types of food and nutrients we need in our diets to stay healthy.

What is the Eatwell Guide?

A poor diet can lead to diseases such as heart disease, Type 2 Diabetes, strokes and high blood pressure, and can stop us from fighting off infections.

What are the sections on the Eatwell Guide?

1. Fruit and Vegetables.
2. Carbohydrates – potatoes, bread, rice, pasta and other starchy foods.
3. Dairy and alternatives – milk, cheese and yogurt.
4. Protein – beans, pulses, fish, eggs and meat.
5. Fats – oils and spreads.

What are the functions of the main nutrients found in the Eatwell guide?

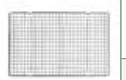
Carbohydrates – To provide us with energy. Proteins – To help maintain and grow muscles. Fats – To help the body absorb certain vitamins. Vitamins and Minerals (found in lots of fruit and vegetables) – To ensure your body works properly and stays healthy.

Cutting Techniques

To demonstrate safety skills when using knives, there are 2 cutting techniques we should use:

Claw grip	Bridge hold
	

Kitchen Equipment

Mixing Bowl		Baking Tray		Colander	
Can Opener		Chopping Board		Sieve	
Peeler		Cooling Peeler Rack		Measuring Spoons	
Potato Masher		Pastry Cutters		Fish Slice	
Rolling Pin		Grater		Palette Knife	
Oven Gloves		Juicer		Digital Scales	
Saucepan		Kitchen Scissors		Spatula	
Pastry Brush		Measuring Jug		Balloon Whisk	
				Hand Mixer	

Herbs	Spices
Basil	Black Pepper
Bay	Cardamom
Chives	Cayenne pepper
Coriander	Chilli
Dill	Cloves
Fennel	Coriander
Mint	Cumin
Parsley	Ginger
Rosemary	Mustard seeds
Sage	Nutmeg
Thyme	Turmeric
Oregano	Saffron

Dietary Fibre

Dietary fibre is a type of carbohydrate found exclusively in plants.

Unlike other types of carbohydrate, it is not absorbed in the small intestine to provide energy. However, it is fermented by the bacteria in the colon (large intestine) and provides a small amount of energy.

Fibre in the diet

Dietary fibre helps to:

- Prevent constipation;
- Increase the feeling of fullness and control energy intake;
- Reduce blood cholesterol levels.

Sources of dietary fibre

Dietary fibre is found in plant food, such as::

- Wholegrain cereals and cereal products.
- Oats
- Beans.
- Lentils.
- Fruit and vegetables.
- Nuts and seeds.

Sugar

COOKING METHOD

Method	How does it work?	Suitable foods
Boiling	Cooking food in water at 100°C.	Eggs, rice, pasta, vegetables etc.
Braising	Sealing meat/poultry in hot oil, then cooking slowly in a covered dish with a little liquid.	Meat, poultry, vegetables e.g. carrots, red cabbage.
Poaching	Cooking food in a shallow pan of water or wine at just under boiling point with only the occasional bubble visible.	Chicken, fish, eggs, fruit (e.g. pears).
Simmering	Means cooking food in a liquid just below boiling point, so that it bubbles gently.	Vegetables, soups, stews, fruit, meat sauces etc.
Steaming	Means cooking food in the steam rising from a pan of boiling water beneath.	Green vegetables, white fish, dim sum dumplings, sponge puddings, rice.
Stewing	Cook food by simmering gently in a covered pot in the oven, on a hob or in a slow cooker.	Meat, poultry, sausages, casseroles, fruit.
Dry frying	Means cooking food that naturally contains oil or fat in a frying pan without adding oil.	Minced meat e.g. beef, lamb, pork, nuts, seeds, spices.
Baking	Cooking food in a hot oven.	Cakes, breads, biscuits, cookies, scones, pastries, potatoes, pizzas, desserts.
Grilling/ Barbecuing	Cook foods by intense radiant heat on a metal grid or grill rack, underneath a heated grill element in a cooker or above the glowing charcoal/flames in a barbecue.	Meat and poultry, oily fish, sausages, burgers etc.
Roasting	Cook food in some fat or oil in the oven.	Meat & poultry joints, root vegetaables, some fruits e.g. plums, nuts.
Toasting	Cook starch-based food with dry heat from a grill or flame.	Bread, buns, crumpets and other starch-based product, nuts, seeds.
Sautéing	Frying food gently in a little oil in order to soften the food and develop the flavour.	Onions, leeks, peppers, meat/ poultry and vegetables etc.
Shallow frying (pan frying)	Frying food in a shallow frying pan in a little oil.	Eggs, fish (white or oily), bacon, burgers, sausages, meat cuts, fish cakes, onions etc.
Stir Frying	Frying food for a short time in a wok, using very little oil and stirring all the time.	Finely cut vegetables, seafood, meat, poultry etc.
Microwaving	Cooking food by electromagnetic waves, called microwaves, in a microwave oven.	Sauces, cake & sponge pudding mixtures, scrambled eggs, vegetables, fruits, fish, soups etc.
Induction Cooking	A method of cooking where heat energy is transferred Stir fry, omelettes, soups, pasta. quickly to a pan through a specifically designed ceramic cooking surface, over an induction coil that creates a magnetic current. Pans that can be used on an induction hob must be made from metals that contain iron.	Stir fry, omelettes, soups, pasta.

Mapping

Map skills

Maps are created by cartographers to help people to navigate. Find out about basic mapping using compass points, grid references, title, key, scale and interpreting Ordnance Survey maps.

The basics of mapping (KPI 7.1.3 demonstrate use of Ordnance Survey map skills, including 4 & 6 figure grid references, points of the compass, scale, distance, symbols & contours):

Maps are representations of the world created by people called cartographers to help other people navigate the world. Maps contain information tailored to a specific purpose.

- A **road map**, for example, contains information that helps the reader get from one place to another using a vehicle.
- The maps found in a **geographical** atlas will contain information of less interest to a road user, such as how the land in a place is used, the population density and the political boundaries that exist between regions, states and nations.

There are five fundamental things you need to be familiar with to read a map successfully:

- Compass directions
- Grid references
- Map's key
- Title
- Scale

Compass Directions

Compass directions are vital for finding your way around a map. There are many ways to remember where each direction goes. You probably learnt a rhyme or a phrase to help you remember - if not, here's one now. Starting at the top and moving clockwise the directions on a compass or map are:

1. North - Naughty
2. East - Elephants
3. South - Squirt
4. West - Water

Grid References

OS maps are divided into numbered squares. These squares can be used to give a place a four or six-figure grid reference. It is important that you know both four-figure and six-figure grid references.

Eastings:

Eastings are lines that run up and down the map vertically. They increase in number the further you move east (or right). You can use them to measure how far to travel east.

Northings:

Northings are lines that run across the map horizontally. They increase in number the further you move north (or up the map). You can use them to measure how far to travel north.

Remember:

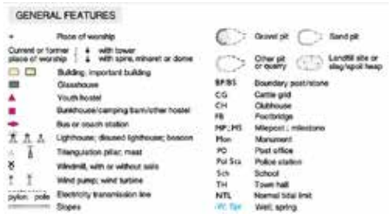
- Numbers along the bottom of the map come first and the numbers up the side of the map come second.
- The four-figure reference **2083** refers to the **square** to the **east** of Easting line 20 and **north** of Northing line 83.
- The six-figure reference **207834** will give you the exact point in the square **2083** - 7/10s of the way across and 4/10s of the way up.

The six-figure reference on the map below shows a church in **Bamford**.

Map Titles, Key And Scale

Key

Just like a key to a door, the key helps you to unlock the information stored in the colours and symbols on a map. You must understand how the key relates to the map before you can unlock the information it contains. The key will help you to identify types of boundaries, roads, buildings, agriculture, industry, places of interest and geographical features.



Scale

The scale of a map allows a reader to calculate the **size, height and dimensions of the features** shown on the map, as well as distances between different points. The scale on a map is the ratio between real life sizes and how many times it has been shrunk to fit it on the map.

On a 1:50,000 scale map, 1 cm on the map represents 50,000 cm on the ground (= 500 m or 0.5 km).

Ordnance Survey maps, the most common type of map in the UK, come in several scales.

- Travel maps have a scale of 1:125,000. This means 1 cm on the map represents 125,000 in the real world or 1 cm = 1.25 km. These are used by drivers going long distances.
- Landranger maps are 1:50,000 (1 cm = 500 m). These are useful for drivers going shorter distances.
- Explorer maps are 1:25,000 (1 cm = 250 m). These are useful for walking and other outdoor pursuits.
- Landplan maps are 1:10,000 (1 cm = 100 m). These show individual streets clearly and might be used by town planners.

Title

Make sure you read the title of a map before you start to use it. This will give you a general idea about the information it stores. While it may appear a straightforward thing to do, under exam conditions, it is easy to confuse different maps or not use the one that is most useful.

Ordnance Survey maps

You will be asked to interpret maps to find out specific information. Being able to distinguish between different types of land use on an Ordnance Survey (OS) map will help you interpret maps during your exams. Here are some things you should brush up on:

- Make sure you can tell the difference between urban and rural land use. Start by looking at the key. Are the features in the key related to the countryside or to towns?
- Look out for features of the urban landscape that are represented in symbols on the OS map. Start by looking at modes of transport (e.g., junctions of main roads, railways, ports and airports).
- Look for rural features. Study the key carefully to see what different areas of shading on the map represent. For example, different types of farmland will be shaded differently.
- Study the relief of the land on your OS map by looking for the contour lines. Contours will show you where the hills (elevations) and valleys (depressions) are on the map. Contours will often show changes in height of 5 or 10 metres. The closer the contours are together the steeper the slope is. If the contours are far apart, you might be looking at a flat flood plain. On the map below the contours in square 1981 are quite close together - indicating a fairly steep gradient.

World Development

Geographers use social, economic and political indicators to measure development in countries throughout the world. Developed countries have better standards of living than less developed countries.

Contrasts in development (KPI 7.3.1 To be able to describe the distribution of developed, developing and newly emerging countries):

Generally, most more economically developed countries (HICs) are in the northern hemisphere and most less economically developed countries (LICs) are in the southern hemisphere. There are exceptions such as Australia and New Zealand. The Brandt Line is an imaginary division that has provided a rough way of dividing all of the countries in the world in to the rich north and poor south.

Many countries in the poor south have become more developed since the 1980s and so many **people now think that the Brandt line is no longer useful.**

For example, some countries that are considered to be 'developing' have experienced rapid growth (especially in manufacturing and tertiary industries) in recent years. We call these countries the newly industrialised countries (NIC/ NEEs) e.g. China, Brazil and Mexico.

In addition to this there are also the BRICS (Brazil, Russia/ India/ China & South Africa) & MINT (Mexico, Indonesia, Nigeria & Turkey) countries that are also rapidly developing.

Why have NIC/ NEEs grown?

- Strong, stable government.
- A switch from agricultural to manufacturing and service jobs.
- A focus on exports and trade.
- Products are kept cheap and competitive by using cheap, well disciplined workers.
- Profits are invested in developing more industries and buying home produced goods - a multiplier effect.
- Over time the workforce becomes better educated and more skilled.

Development indicators

(KPI 7.3.2 To be able to identify how development is measured through a single development indicators and HDI):

One of the key questions to ask about development is the standard of living of the people who live in a country. There are many different ways to measure the quality of life or level of development of a place. These are called development indicators.

Economic indicators that affect standard of living:

Indicators	Examples of measures
Wealth	Gross Domestic Product (GDP) - the total value of all goods and services produced in a country
	Gross National Product (GNP) - GDP plus earnings from foreign investment
	GNP per capita - GNP divided by the total population
Jobs	The types of jobs people do differ between countries. In more economically developed countries (HICs) more people work in tertiary and quaternary jobs. In less economically developed countries (LICs) more people work in primary jobs such as farming and secondary jobs such as manufacturing.

Social indicators that affect standard of living:

Indicators	Measures	Statistics
Health	Life expectancy	UK = 80, Afghanistan = 45
	Death rate: deaths per 1,000 per year	Australia = 6.4, Mozambique = 18.8
	Infant mortality rate	Sweden = 2.5, Pakistan = 75.2
	Birth rate: births per 1,000 per year	Germany = 8.1, Malawi = 37.9
Education	Percentage in primary education	
	Literacy rate	Korea = 100%, Mali = 26%
Equality	Equal opportunities for women	
	Fair distribution of wealth	
	Freedom of speech, e.g. people can vote	

(Population and Vital Statistics Report, UN, updated March 2011)

Key Terms

Life expectancy - The average number of years a person is expected to live in a particular place.

Infant mortality rate - The number of children who die before the age of one.

Literacy rate - Percentage of people who can read and write.

Measuring development is not straightforward. It can be misleading to look at one single wealth indicator like GNP per capita because the wealth of a country might not be shared out equally. Also, one country might be seen as very developed when using one indicator, but far less developed when using a different indicator. Therefore, geographers use more than one indicator when measuring development. The United Nations now uses a composite indicator called **HDI (Human Development Index)** which is made up of a number of important measures, such as:

- GNP per capita - **INDUSTRY**
- Number of years schooling - **EDUCATION**
- Life expectancy - **HEALTH**

Less useful indicators for development

Some pieces of data do not help to measure development. For example, the size of a country is not very helpful because some large countries are very poorly developed while other large countries are very advanced. Also, high population density can be associated with both well developed (Hong Kong) and less developed (Bangladesh) countries.

Factors affecting development (KPI 7.3.3 To explain factors that affect development):

There are lots of reasons why some countries are much less developed than others. The reasons are complex and vary from place to place.

Physical factors:

- **Climate** - many of the poorest countries are in the tropics where it is hot, the land is less fertile, water is scarce, and diseases flourish.
- **Natural resources** - some raw materials are valuable and can help a country develop if they have the resources to collect and process them, e.g. oil, diamonds, forests and gold.

Historical/political factors:

- **Trade** - goods are traded on a global scale but it is difficult for poor countries to compete. Some believe the rules of trade are unfair. Rich countries can raise tariff barriers to stop cheap imports undercutting their own goods. In the past some countries made money by colonising other countries and using their raw materials to produce manufactured goods.
- **Corruption/poor management** - countries need **strong, stable** and honest leaders to help them develop.
- **War** - wars use up resources and make it difficult to produce goods and trade.

Social factors:

- **Discrimination** - some groups may have fewer opportunities, and this can hold back overall development, e.g. if women are not educated to the same standard as men.
- **Population** - overpopulation occurs where population growth outstrips resources.

The United Nations Millennium Goals:

The United Nations is an organisation of independent countries formed in 1945 to work for international peace and security. In 2000, the United Nations agreed on some Millennium Goals. Every country and all the world's leading development organisations agreed to these. The aim was to achieve them by 2015. The Millennium Goals are to; end poverty and hunger, universal education, gender equality, child health, maternal health, to combat HIV/AIDS, environmental sustainability & global partnership. There has been success in some areas but there is still a great deal of work to do. In 2008 child mortality in developed countries was 6 in 1000 per year but in developing countries it was still high - 72 in 1000 per year.

Strategies to improve Quality of Life (KPI 7.3.4 Assess a strategy that be used to improve the quality of life in a developing country region):

Aid - Fairtrade Case study

Fairtrade is about better prices, decent working conditions and fair terms of trade for farmers and workers in the developing world. The scheme ensures that commercial companies pay stable fair prices for products.

This enables producers to plan, improve their businesses, develop skills and increasingly, adapt to climate change.

As part of the scheme, Fairtrade provides a social premium, life transforming funds to be used to benefit the community through schools, roads, health clinics and more.

"Our mission is to connect disadvantaged farmers and workers with consumers, promote fairer trading conditions, and empower farmers and workers to combat poverty, strengthen their position and take more control over their lives."

Fairtrade Facts

- The Fairtrade system currently works with over 1.70 million farmers and workers.
- There are 1,707 Fairtrade producer organisations across 73 countries.
- More than 2,400 companies have licensed over 35,000 Fairtrade products.
- Fairtrade sales reached over £8.9 billion (2018 figure) from 158 countries.
- On average each Fairtrade producer organisation receives £108,000 in Fairtrade premium.
- 25% of all Fairtrade farmers and workers are women and Fairtrade Standards are designed to prevent gender inequality, increase female participation, and empower more women and girls to access the benefits of Fairtrade.
- 5 hectares is the average size of the plot cultivated by a Fairtrade farmer.
- Small producer organisations spend 50% of the Fairtrade premium in services for farmers and the provision of agricultural tools and training and 50% in education services and housing improvements.
- Environmental protection is ingrained in Fairtrade: farmers have to improve soil and water quality, manage pests, avoid using harmful chemicals, manage waste, reduce their greenhouse gas emissions and protect biodiversity.

Fairtrade in the UK

- Fairtrade products are now sold in more than 120 countries across the world with over 4,500 products available for purchase.
- 82% of UK shoppers care about Fairtrade (2018 figure) and 84% believe in the importance of third-party certification.
- 93% of the UK public recognise the Fairtrade mark and 83% trust it when deciding whether a product is ethical.
- One in four shoppers now regularly buy several Fairtrade products and one in three bananas sold in the UK are Fairtrade.
- In 2018 (latest figure available) over £34 million worth of Fairtrade premium was generated in sales in the UK.

Micro-finance - Oxfam 'the gift of a cow' Case Study

Microfinance is a banking service provided to unemployed or low-income individuals or groups who otherwise would have no other access to financial services. Microfinance allows people to take on reasonable small business loans safely, and in a manner that is consistent with ethical lending practices.

An example of micro-finance is the gift of a cow, this allows the farmer to have control over the aid that he, or she receives. For example, the finance provides training for farmers, to help them grow more crops, raise more animals and earn more income in the face of climate change.

Living in poverty, families can struggle to put food on the table and support their loved ones. But the chance to earn a decent income can change everything – and help people to beat poverty for good.

It's why Oxfam assists with setting up farming co-operatives and helping farmers with brilliant, poverty-busting ideas to share them with others. It all starts with gifts like this one. This gift supports our Making a Living (ML) projects.

Geography Command Words	What you need to do
Identify/ State/ Name	This needs a simple, but accurate, answer. If you revise you will score marks! 'An example of a tectonic hazard is an earthquake…'.
Label	You need to use a ruler and accurately label a picture, graph or diagram. Read these question thoroughly so you get full marks.
Draw	Produce a drawing, diagram or sketch that is recognisable – it needs to look what has been asked!
Outline	Set out the main points of the answer. 'At a subduction zone the two plates move towards each other, due to the density of the oceanic crust it …'.
Compare	Identify similarities and/ or differences by using factual data or examples. 'The key differences between HIC & LIC urban areas are …'.
Describe	Use factual information to say what something is, this means you need good subject knowledge and to learn key facts and data. 'The primary effects of a tectonic hazard are that people lose their lives and buildings are destroyed. For example in Nepal in 2015 there were 8,841 deaths and the historic building is city of Kathmandu were destroyed …'.
Explain	Give reasons based on fact, 'this means that/ this is because/ this leads to'.
To what extent	This is often used with 'assess' and requires you to use information to compare events. 'If I compare the primary and secondary effects of Typhoon Haiyan the evidence shows me that…'.
Evaluate	When you evaluate you use evidence to formulate your answer. 'When I evaluate the figure showing the positive of the improved transport networks in Lagos it shows that the improvements in infrastructure have …'.
Discuss	Use key points to open a discussion, it often means that you need to identify positives & negatives of a particular issue or strategy. 'The positives of developing a hot desert are …?..., however a negative is that…?...'.
Justify	You need to add evidence to build you answer. 'The 3P's had a significant impact on the 2010 volcanic eruption in Iceland. Evidence to support this is that …'.

World Of Work

Background

1. The world of work can be classified into four different employment sectors. **(B)**
2. Many factors influence the type of employment sector which will be found within a particular country. **(C)**
3. Furthermore, industrial location is influenced by some key factors, which are more important for some industries in comparison to others. **(D)**
4. Employment structure within countries varies based upon the level of development. **(E)**
5. However, employment structures are not fixed, just like in the UK they can change over time. **(F)**
6. Tourism is a rapidly growing tertiary industry worldwide. **(G)**
7. Tourism can bring both positive and negative impacts for the host country. **(H)**

A Classifications Of Employment (2)

Employment	When people are in work, receiving a wage and paying tax.
Unemployment	When people are not in work, therefore do not receive a wage and do not pay tax.

B Different employment sectors (4)

Primary sector	Industries which collect raw materials such as; farming, logging, oil rigging, mining, quarrying etc.
Secondary sector	Industries which manufacture goods into products such as; car manufacturers, food processing plants, toy assembly plants, builders etc.
Tertiary sector	Industries which provide a service such as; teaching, accounting, health care, sales assistants etc.
Quaternary sector	Defined as hi-tech, research and design. They include hardware and software engineers and pharmaceutical companies.

C Influences on employment structure (5)

Imports	Goods brought into a country.
Exports	Sending goods to another country for sale.
Industrialisation	When a country begins to move from primary employment to secondary employment, with a rise in manufacturing..
Mechanisation	When machinery begins to do the jobs which once required humans..
Disposable income	The money a person has left to spend after they have paid all of their bills.

D Factors which influence the location of industry (5)

Raw materials	Natural resources that are used to make things.
Transport links	The links which allow goods and workers to be transported in and out of industries.
Labour	Workers, employed people. A place where raw materials or goods are sold.
Market	A place where raw materials or goods are sold.
Footloose	Industries which are not tied to a location due to natural resources or transport links.

E Employment structure differences (3)

Developing countries	Large primary sector, growing secondary sector and a moderate tertiary sector.
Emerging countries	They have a large secondary sector, rapidly falling primary sector and growing tertiary sector.
Developed countries	A large tertiary sector, a growing quaternary sector, both secondary and primary employment is low.

F Employment structure change in developed countries (2)

Falling Primary And Secondary Sector (3)	1. Cheaper to import. 2. Mechanisation has taken jobs. 3. Raw materials have been exhausted in certain areas.
Growing Tertiary Sector (2)	1. Disposable income has increased, so a greater demand for services. 2. A large public sector e.g. health and education, due to a high tax revenue.

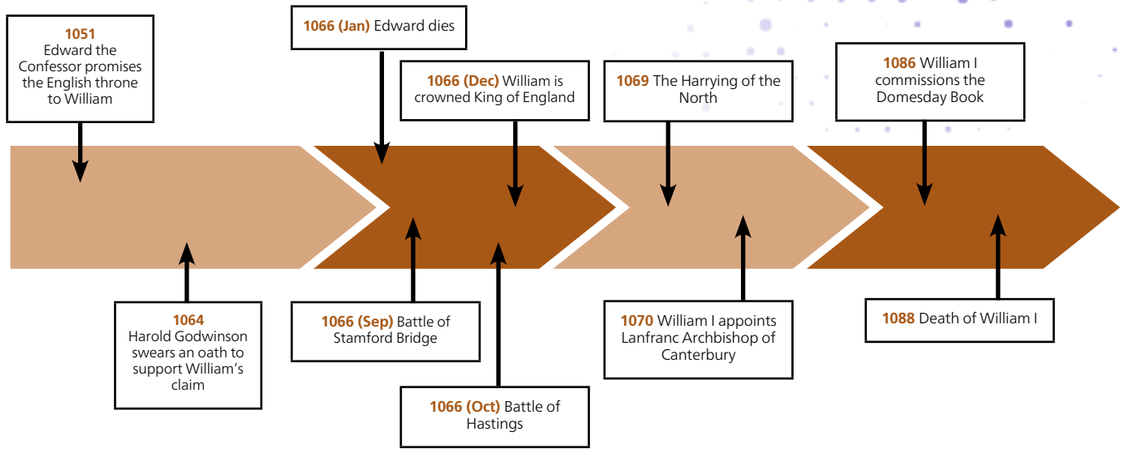
G Features of tourism (3)

Tourist	A person who is visiting a place for pleasure.
Positive multiplier effect	The introduction of a new industry in an area also encourages growth in other industrial sectors, leading to further growth.
Butler model	Shows how tourist resorts go through six stages, from discovery, growth, success, stagnation to rejuvenation or decline.

H Tourism in Kenya

Where?	The Maasai Mara National Reserve, in southern Kenya.
Positive (3)	**Negative (4)**
1. Tourism provides 11% of Kenya's GDP. 2. The National Reserve is protected, saving many animals e.g. cheetahs. 3. Large infrastructure projects have been funded by overseas companies e.g. new road networks.	1. Mini-buses are driving across the Savannah. 2. Shadows from hot air balloons are scaring the wildlife. 3. Only 2% of the profit stays with the local people, much is lost to tour companies. 4. Animals are being fed by tourists, which is stopping them from hunting, impacting the food chain.

The Norman Conquest



Key People:	
Edward the Confessor	An Anglo-Saxon king whose death triggered the Norman invasion of England in 1066
Harald Hardrada	A warrior Viking king who made a claim for the English throne in 1066
Harold Godwinson	The last Anglo-Saxon king who was killed at the Battle of Hastings in 1066
William, Duke of Normandy	A French duke who conquered England in 1066, becoming William I, King of England

Key Words:

AD Anno Domini, the years before Christ was born	**Coronation** A ceremony where the king is officially crowned	**Motte and Bailey Castle** A simple castle with a man-made hill surrounded by a clear defensive area
Anglo-Saxons Tribes that invaded England from 400 AD	**Domesday Book** A book ordered by William detailing the possessions of every village and town in England	**Normans** William's nobles brought over from Normandy
Archbishop The most senior and powerful churchmen in the country	**Feudal** System The structure of medieval society	**Oath** A sacred promise witnessed by God
Baron The highest rank of medieval society	**Fortification** A building to defend against attack	**Peasant** The majority of Englishmen, at the bottom of the Feudal System, who had to work the land for their lord
Bayeux Tapestry A cloth depicting William's conquest	**Fyrd** Anglo-Saxon part-time soldier	**BC** Before Christ, the years before Christ was born
Harrying To repeatedly attack somewhere or someone	**Shield** Wall A barrier created by soldiers with their shields	**Cathedral** A large and impressive church in which a bishop is based
Hierarchy A form of social structure where people are ranked according to their status, from highest to lowest	**Succession** A new monarch taking over the throne from the last monarch	**Cavalry** Group of soldiers who fought on horseback
Survey To examine or investigate somewhere	**Chronology** The order that past events happened in	**Illegitimate** Someone born outside of marriage
Tactic A carefully planned strategy in battle	**Claimant** One of three challengers to the throne in 1066	**Knight** Soldiers on horseback who belonged to the nobility
Viking Seafaring warriors and invaders from Scandinavia	**Revolt** To fight in a violent manner against a ruler	**Clergy** Men who worked within the church e.g. priests, bishops, archbishops, monks
Monarch King or queen of a country	**Witan** Collection of Anglo-Saxon noblemen who advised the king	**Huscarls** Professional Anglo-Saxon soldiers

The Norman Conquest Knowledge Outcomes

1	**Which Anglo-Saxon king died in 1066 leaving no clear heir?**	Edward the Confessor	19	**What did William and his troops do on their way to London after the Battle of Hastings?**	Burnt crops and villages
2	**Which Anglo-Saxon earl was crowned by the Witan following the death of the king?**	Harold Godwinson	20	**When was William crowned King of England?**	Christmas Day 1066
3	**Which part of northern France was William the Duke from?**	Normandy	21	**What did William and his nobles build across England?**	Motte and Bailey castles
4	**What did William say happened in 1051?**	Edward promised him the English throne	22	**What did William do with the land belonging to Anglo-Saxon nobles?**	Gave it to the Norman knights
5	**What was Harold supposed to have done in 1064?**	Swore an oath to support William	23	**How did Harold Godwinson's family respond to William being crowned?**	Raised a revolt from Exeter in 1068
6	**Which important Christian figure supported William's claim?**	The Pope	24	**What happened in 1069, following a revolt in Durham?**	The harrying of the north
7	**Which Viking warrior king also claimed the English throne?**	Harald Hardrada	25	**Who was at the top of the Feudal System?**	The king
8	**Who invaded England in September 1066?**	Harald Hardrada and Tostig Godwinson	26	**Were barons or knights higher in the Feudal System?**	Barons
9	**What battle did Harold's army fight in the north?**	Battle of Stamford Bridge	27	**What important book did William commission in 1086?**	Domesday Book
10	**What suddenly changed in September and allowed William to sail the Channel and invade?**	The wind	28	**What was the primary reason William commissioned this book?**	Taxation
11	**In what month and year did the Battle of Hastings take place?**	October 1066	29	**In what order do historians put historic dates into?**	Chronological
12	**Why did Harold hurry into fighting the Normans?**	He wanted to catch them by surprise	30	**What does BC mean?**	Before Christ
13	**What was Harold's force of 3,000 professional soldiers called?**	Huscarls	31	**What do we call a period of 100 years?**	A century
14	**What were William's heavily armoured soldiers on horseback called?**	Knights	32	**What is it called when historians form their own views on what happened in the past?**	An interpretation
15	**Who had the stronger army at the start of the Battle of Hastings?**	William	33	**What do historians use to understand what happened in the past?**	Evidence
16	**What is the 70m long embroidered cloth depicting William's victory?**	Bayeux Tapestry	34	**What are the three main elements of a source we must analyse?**	Content, origin, purpose
17	**What did Harold's army form that William's army could not break through?**	Shield wall	35	**In which part of the source can we find who wrote or made it?**	The origin
18	**What tactic did William use to get the Saxons off from the top of the hill?**	A false retreat	36	**What do we call it when historians are trying to understand the reasons why an event in history happened?**	Causation

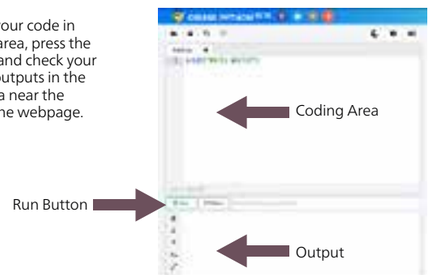
Introduction to Programming

Programming Keywords	
Variable	Variables store information and can be compared to a box that stores things, for example: Name = "Claude"
Algorithm	A set of step by step instructions used to solve a problem.
Flowchart	A visual representation of an algorithm.
Assignment	The process of storing a value inside a variable, for example: Password = "OXJ91mau"
Expression	A combination of operators and operands that is interpreted to produce some other value.

Accessing Python Development Environment

To access our Python programming environment, open your web browser and go to **www.online-python.com**

Then, type your code in the coding area, press the run button and check your program's outputs in the outputs area near the bottom of the webpage.



Comparison Operators

Operator	Meaning	Example	Evaluates to
==	Equal to	**7==7**	True
!=	Not equal to	**6!=7**	True
>	Grander than	**7>6**	True
<	Less than	**5>6**	False
>=	Greater than or equal to	**6>=8**	False
<=	Less than or qual to	**7<=7**	True

Arithmetic Operators

Operator	Meaning	Example
+	Addition	**num1 = num2 + num3**
-	Subtraction	**num1 = num2 - num3**
*	Multiplication	**num1 = num2 * num3**
/	Division	**num1 = num2 / num3**

Data Types

Data Type	Example	Description
String	**x = "Hello"**	Stores combinations of any characters – letters, numbers and symbols
Integer	**x = 11**	Stores whole numbers
Float	**x = 11.5**	Stores decimals
Boolean	**x = True**	Stores values True or False

Selection

If Statements

Python	Pseudocode

x = 3
if x == 1:
  print("x is 1")
	store value 3 in variable x
	if value in x is equal to 1, then:
	  display string "x is 1" on screen

If...else Statements

Python	Pseudocode

x = 3
if x == 1:
  print("x is 1")
else:
  print("x is not 1")
	store value 3 in variable x
	if value in x is equal to 1, then:
	  display string "x is 1" on screen execute if the previous condition is not true
	  display string "x is not 1" on screen

if...elif...else statements

Python	Pseudocode

x = 10
if x >= 100:
  print("x is >= 100")
elif: x >= 50:
  print("x is >= 50")
elif: x >= 10::
  print("x is >= 10")
else:
  print("x is < 10")
	store value 10 in variable x
	if x is equal to or larger than 100, then:
	  display string "x is >= 100" on screen if x is equal to or larger than 50, then:
	  display string "x is >= 50" on screen if x is equal to or larger than 10, then:
	  display string "x is >= 10" on screen
	execute if the previous conditions are not true
	  display string "x is < 10" on screen

Flowchart Symbols

Symbol	Meaning
	Start/End
	Controls the flow of the program
	Input/Output
	Process
	Selection/Decision
	Subprogram

Comments

To write a comment that will be omitted by Python when the program is running, use # symbol, for example:

If x >100: #This is an if statement

Loops

While Loops

count = 0 While count < 9: print("The count is:", count) count = count + 1 print("Thank you")	While loop repeats while the given condition is true. It tests the condition every time.

For Loops

Fruits = ["orange","apple","mango"] for i in fruits: print(i) print(i)	For loop repeats a set number of times. In this case, it will happen 3 times – one for each fruit.

Programming

Computational Thinking

Computational thinking is a set of problem-solving methods that involve expressing problems and their solutions in ways that a computer could also execute.

Other Computational Methods:

Data Mining	Algorithms	Pattern Recognition
This aims to spot trends and patterns in data.	A rough list of instructions used to solve a problem.	Used to find similarities and make problems easier to solve.

Variables and Constants

```
Dnum1 = int(input("Enter first number"))
num2 = int(input("Enter second number"))
num3 = 10
print(num1+num2+num3)
```

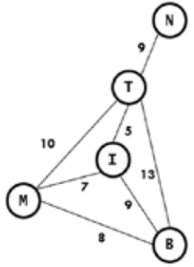
Variables	Constants
is used to store a value that can change at any point during the program. For example, in the code above, num1 and num2 are variables because the input could be different every time the program is run.	A named storage location that is used to store a value that cannot change automatically and will remain the same each time to program is run. It can only change if the user manually changes the value. For example, in the code above num3 is a constant.

Programming Constructs

Sequence refers to a logical order of items. In the context of programming, algorithms always use a sequence because it is written line by line.	***Selection*** is the process in which an outcome depends on whether a certain condition is met. In programming, selection (IF) statements are commonly used for this.	***Iteration*** is the process of repeating steps. In programming, there are two common types used: FOR Loops and WHILE Loops.

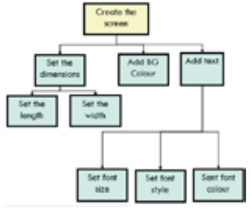
Abstraction

Abstraction is the removal of unnecessary elements so that the important parts remain, thus making the problem easier to solve.



Decomposition

Decomposition is the process of taking a problem and breaking it down into smaller chunks (known as sub-task



Online Safety

Programming Keywords

Cyberbullying is an extremely unpleasant and upsetting experience. There are several authorised websites that offer advice on how to stay safe online and what to do if you find yourself in this situation:

BBC Webwise	http://www.bbc.co.uk/webwise
Bullying UK	0808 800 2222
CEOP Helpline	0800 1111
Childline	http://www.childline.org.uk
ThinkUKnow	http://www.thinkuknow.co.uk

Key Information

Hackers 'stole' Game of Thrones scripts, obtaining 1.5 terabytes of HBO company data.

An encryption is when data is scrambled before being transmitted, meaning only the recipient who has the 'key' can unscramble it.

Active digital footprints are data trails you intentionally leave online such as posting updates, liking photos and uploading videos onto social media sites.

Passive digital footprints are data trails you unintentionally leave online such as recording your web browsing and search history.

Phishing emails target individual's online banking credentials, credit card details, or other login information such as usernames and passwords.

Webcams can be used in many ways such as video conferencing, online gaming, online dating, job interviews, vlogging, or home security.

More than 1.5 million people fall victim to some sort of cyber crimes every day.

Definitions

Block	Action taken to stop interactions from certain people via online communication.
Cyberbullying	The use of electronic communication to bully a person, by the repetitive, intentional hurting of one person or group of people
Digital Footprint	The information about a particular person that exists online as a result of their online activity
Hacking	Gaining unauthorised access to information, with the intention of stealing data or causing damage
Netiquette	The acceptable way of communication online
Online Grooming	When someone builds an online relationship with a young person and tricks them or pressures them into doing something sexual
Phishing	The method of trying to gather personal information using dishonest emails and websites
Social Network	An online platform that allows users to create a profile and interact with other users online
Spam	An email that is sent to a number of people which mostly consists of advertising

Be S.M.A.R.T Online

S	M	A	R	T
Stay Safe Don't give our personal information to anyone you don't know.	**Don't Meet Up** Meeting someone you met online can be very dangerous.	**Accepting Files** Accepting emails, files, pictures of texts from people you don't know can cause problems	**Reliable?** Check credibility of information you find online. Don't trust everything you read online!	**Tell Someone** Tell a trusted adult if someone or something makes you feel worried or uncomfortable.

CLICK CEOP Internet Safety

In an Emergency 999

Tell Someone Click for Anonymous Form

KPI 7.01 Numerical Skills

1) Place Value	The value of a digit relating to its position in a number. In 1482 the digits represent 1 thousand, 4 hundreds, 8 tens and 2 ones.	**2) Integer**	Whole numbers including zero. -2, -1, 0, 1, 2, 3, …
3) Decimal	A number with a decimal point in it. It can be positive or negative. 0.3, 1.26, -3.4, etc	**4) Positive Number**	Any number above zero: 1, 2, 3, 4, …
5) Negative Number	Any number below zero. Always written with a negative sign in front of it: -1, -2, -3, …	**6) Zero Place Holder**	A zero that is used as a place holder to denote the absence of a power of 10 E.g. 506 has no tens so there is a 0 in the tens column.
7) Even Number	Any integer that can be divided by 2 without leaving a remainder. 2, 4, 6, 8, 10, …	**8) Odd Number**	Any integer that cannot be divided by 2 without leaving a remainder. 1, 3, 5, 7, 9, …
9) Square Number	The result of multiplying a number by itself. It will always be positive: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144...	**10) Square Root**	The opposite of squaring a number to find the original factor ***e.g.*** $\sqrt{9} = 3$ ***or*** -3
11) Inequality	When one number, or quantity, is not equal to another. $a < b$ *a is less than b* $a > b$ *a is greater than b* $a = b$ *a is equal to b* $a \neq b$ *a is not equal to b*	**12) Ascending**	Smallest to largest
		13) Descending	Largest to smallest

KPI 7.02 Order of Operations

1) Operation	A rule for combining numbers + - × ÷	**2) Evaluate**	To work out the value of.
3) Index notation	The **index** tells us how many times the **base** is being multiplied by itself. The plural of index is indices.	Power, Index, Base: 2^3	
4) Order of operations	**B** = Brackets **DM** = Division and Multiplication **I** = Indices and Roots **AS** = Addition and Subtraction		
	If we have a calculation with addition or subtraction only then we calculate from left to right. $18 - 10 + 2$ $8 + 2$ 10	If we have a calculation with multiplication or division only then go from left to right. $8 \times 5 \div 4 \times 10$ $8 \times 5 \div 4 \times 10$ $40 \div 4 \times 10$ $10 \times 10 = 100$	

KPI 7.03 Basic Rules of Algebra

1) 2a	$2 \times a$	**2) ab**	$a \times b$
3) a^2	$a \times a$	**4) $3a^2$**	$3 \times a \times a$
5) a subtracted from b	$b - a$	**6) a less than b**	$b - a$
7) a subtract b	$a - b$	**8) a reduced by b**	$a - b$
9) a divided by b	$\frac{a}{b}$	**10) b divided by a**	$\frac{b}{a}$
11) 4 times smaller than a	$\frac{a}{4}$	**12) 4 times larger than a**	$4 \times a \rightarrow 4a$
13) 5th power of a	a^5	**14) Variable**	A letter used to represent any number.
15) Coefficient	The number to the left of the variable. This is the value that we multiply the variable by. $4x \rightarrow$ *The coefficient of x is 4.* $x \rightarrow$ *The coefficient of x is 1.*	**16) Term**	A single number, variable or numbers and variables multiplied together.
17) Expression	A mathematical statement which contains one or more terms combined with addition and/or subtraction signs ***E.g. 4x + 3y.***	**18) Collecting like terms**	Combining the like terms in an expression. $7x + 3y - 2x$ is simplified to $5x + 3y$.

KPI 7.04 Factors, Multiples and Primes

1) Factor	Any whole number that divides exactly into another number leaving no remainder is a factor. *Factors of 20 are: 1, 2, 4, 5, 10, 20*	**2) Multiple**	The result of multiplying a number with a whole number (all times tables!) *The multiples of 7:* *7, 14, 21, 28, 35, 42, 49, 56, 63, 70 ...*
3) Highest Common Factor (HCF)	The HCF of 2 or more numbers is the largest number that is a factor of each of those numbers *E.g. HCF of 18 and 45 = 9* *18: 1, 2, 3, 6, 9, 18* *45: 1, 3, 5, 9, 15, 45*	**4) Lowest Common Multiple (LCM)**	The LCM of 2 or more numbers is the smallest number that is a multiple of each of those numbers *E.g. LCM of 6 and 8 = 24* *6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60* *8: 8, 16, 24, 32, 40, 48, 56, 64, 72, 80*
5) Prime numbers	A prime number only has two distinct factors: 1 and itself. 2 is the only even prime number. 1 is not a prime number. *Prime numbers between 1 and 100 are:* *2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97*		

KPI 7.05 Expand and Factorise

1) Expand	Multiply out the bracket(s) in the expression. *E.g. 3 (5x + 7) = 15x + 21*	**2) Factorise**	Identify the HCF and rewrite the expression with brackets. *E.g. $6x^2 + 9x = 3x (2x + 3)$*

KPI 7.06 Addition and Subtraction

1) Addition Plus, add, sum, more than.	To find the total of two or more numbers. The inverse operation is subtraction. *1.38 + 4.90 = 6.28*	**2) Subtraction Subtract, minus, take away, less than.**	To find the difference between two numbers. The inverse operation is addition. *4.90 − 1.38 = 3.52*
3) Commutative	Addition is commutative – the order of addition does not change the result. Subtraction is not commutative.	**4) Associative**	When you add you can do so regardless of how the numbers are grouped. Subtraction is not associative.

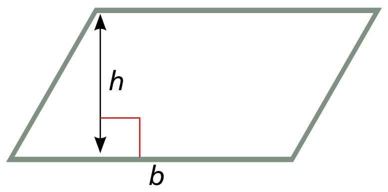
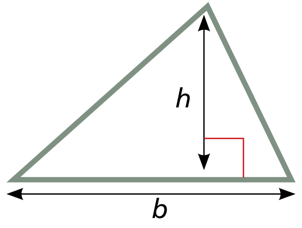
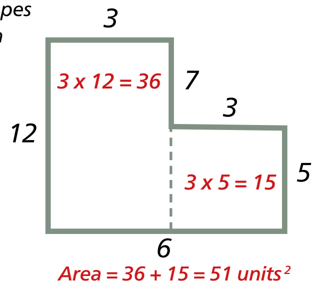
KPI 7.07 Perimeter

1) Perimeter	The total distance around the outside of a closed shape.	*8cm* *5cm* *Perimeter = 5 + 8 + 5 + 8 = 26 cm*	**2) Polygon**	A 2D shape which has 3 or more straight sides.
			3) Regular Polygon	A polygon where all sides are equal length, and all angles are of equal size.
			4) Irregular Polygon	A polygon where all sides are not equal and/or all angles are not equal.

KPI 7.08 Multiplication and Division

1) Multiplication lots of, times, product, of	Multiplication is the operation of scaling one number by another. Multiplication is the inverse operation of division. Multiplication is commutative – the order of multiplication does not change the result *E.g. 2 x 3 = 3 x 2.* Multiplication is associative – when you multiply you can do so regardless of how the numbers are grouped *E.g. 1 x (2 x 3) = (1 x 2) x 3*		
2) Multiplying integers	*29 x 3* 29 × 3 = 87	**3) Multiplying decimals**	Remove the decimal points Multiply Insert the same number of decimal points in the answer as in the question *0.5 x 0.3* *5 x 3 = 15* *0.5 x 0.3 = 0.15*
4) Division	Division can be thought of as sharing. The number being divided is shared equally into the stated number of parts. Division is the inverse operation of multiplication. $D \div \blacksquare = \frac{D}{\blacksquare}$ *E.g.* $8 \div 9 = \frac{8}{9}$ *4524 ÷ 3* = 1508 (3 | 4524) 3 ÷ 8 = 0.375 (8 | 3.000)		
5) Dividend	The number being divided. *15 ÷ 3 → 15 is the dividend.*	**6) Divisor**	The number by which another is divided. *15 ÷ 3 → 3 is the divisor.*

KPI 7.09 Area of Rectangles, Triangles and Parallelograms

1) Area	A measure of the space inside a 2D shape. Area is measured in square units *E.g. square centimetres (cm^2), square metres (m^2).*		
2) Area of a rectangle	*Area = length x width*  	**3) Area of parallelogram**	*Area = base x height* 
4) Area of triangle	*Area = $\frac{\text{base x height}}{2}$*  	**5) Compound area**	*Split into regular shapes* *Find the area of each* *Sum the areas* 

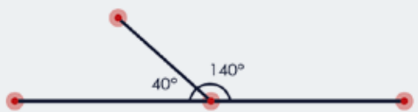
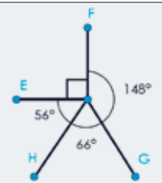
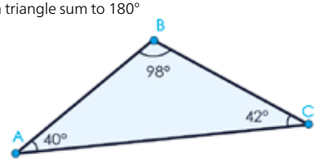
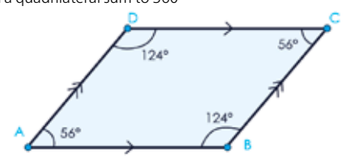
KPI 7.10-7.13 Fractions

1) Fraction	Part of a whole. The result of dividing one integer by a second (non-zero) integer.	$\frac{3}{4}$	**Numerator** Denominator **How many equal parts do you have?** How many equal parts is the whole divided into?
2) Proper fraction	The numerator is smaller than the denominator e.g. $\frac{5}{6}$	**3) Improper fraction**	The numerator is greater than or equal to the denominator e.g. $\frac{11}{8}$
4) Mixed number	A whole number combined with a fraction. e.g. $2\frac{1}{3}$	**5) Simplify a fraction**	Divide both the numerator and the denominator of the fraction by their HCF. $\frac{6}{14} = \frac{3}{7}$ (÷ 2)
6) Writing one number as a fraction of another	Write £15 as a fraction of £25. $\frac{15}{25} = \frac{3}{5}$		
7) Equivalent fractions	Fractions which have the same value. The numerator and the denominator can be multiplied or divided by the same number.	E.g. Fractions equivalent to $\frac{3}{5}$:	$\frac{3}{5}\ \frac{2}{2}\ \frac{6}{10}$ | $\frac{3}{5}\ \frac{3}{3}\ \frac{9}{15}$ | $\frac{3}{5}\ \frac{4}{4}\ \frac{12}{20}$ | $\frac{3}{5}\ \frac{10}{10}\ \frac{30}{50}$
8) Convert an integer to a fraction	Whole numbers are an integer with a denominator of 1.	$3 = \frac{3}{1} = \frac{15}{5}$ (x 5)	
9) Converting an improper fraction to a mixed number	Divide the numerator by the denominator. Write down the whole number of the answer and the remainder as the numerator of the fraction. The denominator of the mixed number is the same as the denominator of the improper fraction.	$\frac{15}{7} = 2\frac{1}{7}$	
10) Converting a mixed number to an improper fraction	Change the whole number into a fraction (same denominator) and add on the fraction part.	$2\frac{3}{4} = \frac{8}{4} + \frac{3}{4} = \frac{11}{4}$	
11) Add/Subtract fractions	Make the denominators the same (find the LCM). Use equivalent fractions to change each fraction to the common denominator. Add/subtract the numerators only.	$\frac{2}{7} + \frac{2}{5} = \frac{10}{35} + \frac{14}{35} = \frac{24}{35}$	
12) Order fractions	Find the lowest common denominator. Write equivalent fractions with the LCD. Order from the smallest to largest numerator. Rewrite original fractions in the new order.	$\frac{2}{3}$, $\frac{20}{30}$ (1), $\frac{2}{3}$ | $\frac{5}{6}$, $\frac{25}{30}$ (3), $\frac{4}{5}$ | $\frac{4}{5}$, $\frac{24}{30}$ (2), $\frac{5}{6}$	
13) Convert fractions to decimals	Use short division. E.g. to convert $\frac{3}{8}$ to a decimal: $8 \overline{)3.000}$ = 0.375 (carries 3 6 4)	**14) Fractions of an amount**	We divide the amount by the denominator and then multiply the result by the numerator. E.g. $\frac{2}{7}$ of 35 $35 \div 7 = 5$ $2 \times 5 = 10$

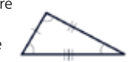
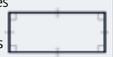
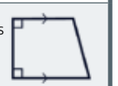
KPI 7.14 Substitution

1) Substitute	Replace a variable with a given value *e.g. if b = 10,* $\frac{b}{2} = \frac{10}{2} = 5$ *2b = 2 × 10 = 20* *b - 2 = 10 - 2 = 8*

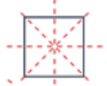
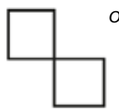
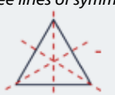
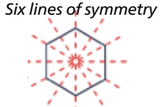
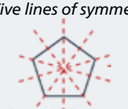
KPI 7.15 Angles

1) Angle	An angle is a measure of turn from one line segment to another. One whole turn is equal to 360 degrees.	**2) Degree**	The most common unit of measurement for angles.
3) Acute angle	Less than 90°	**4) Right angle**	Exactly 90°
5) Obtuse angle	Greater than 90° but less than 180°	**6) Reflex angle**	Greater than 180°
7) Angles on a straight line	Angles on a straight-line sum to 180° 	**8) Angles around a point**	Angles around a point sum to 360° 
9) Angles in a triangle	Angles in a triangle sum to 180° 	**10) Angles in a quadrilateral**	Angles in a quadrilateral sum to 360° 

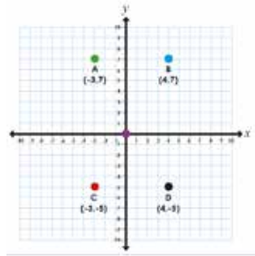
KPI 7.16 Polygons

1) 3 sides	Triangle	**2) 4 sides**	Quadrilateral
3) 5 sides	Pentagon	**4) 6 sides**	Hexagon
5) 7 sides	Heptagon	**6) 8 sides**	Octagon
7) 9 sides	Nonagon	**8) 10 sides**	Decagon
9) 11 sides	Hendecagon	**10) 12 sides**	Dodecagon
11) Equilateral triangle	• 3 equal angles • 3 equal sides 	**12) Isosceles triangle**	• 2 equal angles • 2 equal sides 
13) Scalene triangle	• All angles are different • All sides are different 	**14) Right angled triangle**	• One angle of 90° • Can be isosceles or scalene 
15) Square	• 4 right angles • 4 equal sides • 2 pairs of parallel sides 	**16) Rectangle**	• 4 right angles • 2 pairs of parallel sides • 2 pairs of equal sides 
17) Parallelogram	• 2 pairs of equal sized angles • 2 pairs of parallel sides • 2 pairs of equal sides 	**18) Rhombus**	• 4 equal sides • 2 pairs of equal sized angles • 2 pairs of parallel sides 
19) Trapezium	• 1 pair of parallel sides 	**20) Right angled trapezium**	• 2 right angles • 1 pair of parallel sides 
21) Isosceles trapezium	• 1 pair of parallel sides • 2 pairs of equal sides • 2 pairs of equal sized angles 	**22) Kite**	• 1 pair of equal sized angles • 2 pairs of equal side 

KPI 7.17 Symmetry and Reflection

1) Line symmetry	2) Rotational symmetry
The mirror lines of a shape. If a polygon is regular, the number of sides is equal to the number of lines of symmetry.	The number of positions in which the rotated object appears unchanged. The number of positions is called the order of the symmetry. For example, **Order 3** tells us that a shape can be rotated into three positions where the shape appears unchanged.
Four lines of symmetry  *Square*	*Order 2* 
Three lines of symmetry  *Equilateral Triangle*	*No rotational symmetry* 
Six lines of symmetry  *Regular Hexagon*	*Order 3* 
Five lines of symmetry  *Regular Pentagon*	*Order 4* 

KPI 7.18 Co-ordinates

1) Origin	The coordinate (0,0), where the x - axis and y - axis intersect.	**2) Axis**	x - axis is horizontal (y = 0) y - axis is vertical (x = 0) The plural of axis is axes.
3) Coordinates	Written in pairs and inside a bracket. The first number is the x - coordinate (horizontal position). The second number is the y - coordinate (vertical position).		Point A is in the SECOND quadrant Point B is in the FIRST quadrant Point C is in the THIRD quadrant Point D is in the FOURTH quadrant The coordinate (0,0) is also known as the ORIGIN

KPI 7.19 Mean

1) Average	A number expressing the central or typical value in a set of data.	**2) Mean**	The sum of the numbers divided by how many numbers are being averaged. E.g. Calculate the mean of *14, 6, 18, 2, 3.* 1) Add the values: *14 + 6 + 18 + 2 + 3 = 43* 2) Divide by 5 3) Mean is $\frac{43}{5} = 8.6$
3) Reversing the mean	If we have the mean but one of the data points is missing, we can find the missing value by: 1) Multiplying the 'mean' by the number of data points to get the total of the values. 2) Subtracting the sum of the known values from the total of all values.	E.g. The mean of three numbers is 5. Two of the numbers are 3 and 10. Find the third value. *Total of the values: 5 x 3 = 15* *15 – (3 + 10) = 2* *The third value is 2*	

KPI 7.20 Two-way tables and Venn diagrams

1) Two-way table

A visual representation of the possible relationships between two sets of categorical data.

You can add and subtract values horizontally and vertically to find totals or missing values.

	Child	Adult	Total
Male	*7*	*9*	*16*
Female	*8*	*6*	*14*
Total	*15*	*15*	*30*

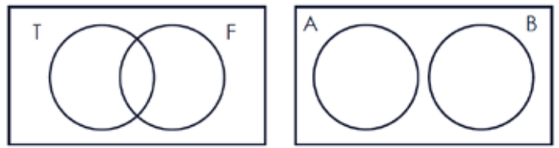
The values in a row have a total at the right-hand side of the row.

The values in a column have a total at the bottom of the column.

2) Venn diagrams

These were created by an English Mathematician, John Venn (1834 – 1923).

They are used to sort groups of data and consist of two or more circles, often overlapping, contained inside a rectangle.



3) One intersection

In a Venn diagram with 2 circles, an overlap represents a section where **elements** (e.g. numbers) lie in **both sets** (e.g. A and B).

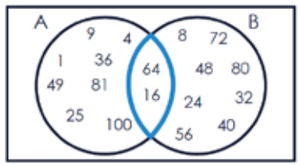
The overlap between the sets, is called the intersection.

E.g.

A = First ten square numbers

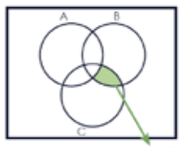
B = First ten multiples of 8

16 and 64 are in the intersection as they are in both sets.

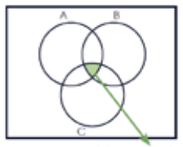


4) Multiple intersections

If a Venn diagram is representing three sets, it will have three circles. Each circle will often overlap with another data set twice, with all three circles overlapping at the centre.



Intersection of B and C



Intersection of A, B and C

The Elements of Music

Pitch
How high or low a note is. Pitch increases and decreases by steps of a scale. Scales can be major or minor.

Tempo
Tempo describes the speed of the music. We use Italian terms to describe speed.

Rhythm
Notes have different lengths – some long, some short. When we combine long and short notes it creates a rhythm.

Melody
Melody is the tune.

Structure
Music is often divided into sections. These sections are put together to create the structure.

Texture
Music is made up of layers. There are different names depending on how many layers there are and how they work together.

Timbre
We use the word timbre to describe the different sounds made by the instruments.

Tonality
Whether the piece is major or minor. Major sounds 'happy', minor sounds 'sad'.

Dynamics
Dynamics is volume in music. Varying dynamics makes music more interesting. We use Italian terms to describe dynamics.

Tempo

Italian	Largo	Adagio	Andante	Allegro	Presto	Rallentando	Allargando
English	Very slow	Slow	Walking pace	Fast	Very fast	Gradually slow down	Gradually speed up

Rhythm – Notes and Note Values

Semibreve	Minim	Crotchet	Quaver	Semiquaver
4 beats	2 beats	1 beat	½ beat	¼ beat

Rhythm – Rhythms into Syllables

Tea	Coffee	Lemonade

Coco-cola	Pineapple

Polyrhythm: Many different rhythms at the same time.

Major Chords – Happy sounding

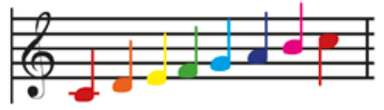
Tonality – Whether the piece is major or minor.

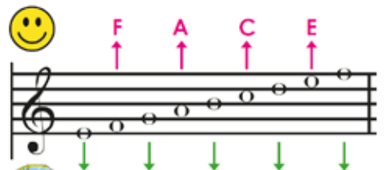
Minor Chords – Sad sounding

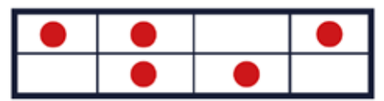
Tonality

	pp	*p*	*mp*	*mf*	*f*	*ff*
Italian	Pianissimo	Piano	Mezzo piano	Mezzo forte	Forte	Fortissimo
English	Very quiet	Quiet	Medium quiet	Medium loud	Loud	Very loud
			Crescendo			Diminuendo
			Gradually getting louder			Gradually getting quieter

Melody – Keyboard Skills







Rhythm Grid

A way of notating rhythm using boxes. Used instead of standard notation.

Stave	Treble Clef	Bass Clef	Sharp	Flat
5 lines where notes are placed to determine pitch.	Symbol placed on the stave. Used for high pitch – right hand piano.	Symbol placed on the stave. Used for low pitch – left hand piano.	Black key to the right on the piano.	Black key to the left on the piano.

Where to find D

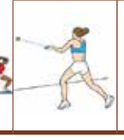
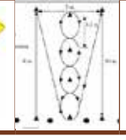
D is in the middle of the two black keys

Health, Fitness, Exercise and Performance

Components of Fitness

Muscular Strength		The amount of force a muscle can exert against a resistance.	**Power**		The ability to perform strength performances quickly. Power = Muscular Strength x Speed
Muscular Endurance		The ability to exercise the voluntary muscles many times without getting tired.	**Co-ordination**		The ability to use two or more body parts together.
Cardiovascular Endurance/ Fitness		The ability of the heart, lungs and blood to transport oxygen to working muscles for long periods of time.	**Reaction Time**		The time taken to respond to a stimulus.
Flexibility		The range of movement (ROM) possible at a joint.	**Agility**		The ability to change the position of the body quickly while maintaining control of the movement.
Body Composition		The percentage of body weight which is fat, muscle and bone.	**Balance**		The ability to maintain the body's centre of mass above the base of support.
			Speed		The amount of time it takes to perform a particular action or cover a particular distance.

Fitness Tests

Grip Dynamometer	1 Minute Sit Ups	12 Minute Cooper Run	Sit and Reach	Body Mass Index (BMI)	Standing Broad Jump	Hand Wall Throw	Ruler Drop	Illinois Agility Test	Standing Stork	30m Sprint
										

Warm Up

Phase 1: Pulse Raiser
To raise the heart rate and speed up oxygen delivery to the working muscles e.g. jogging.

Phase 2: Stretching
Stretching the muscles and soft tissues you are about to use increases their elasticity and range of movement.

Phase 3: Drills
These are more intense practices relating to the main session, such as dribbling or passing if you are playing football.

Why we do a 'Warm Up'

- To physically prepare
- To mentally prepare
- Increase the Improves flexibility temperature of muscles, tendons and ligaments, reducing chance of injury
- To increase oxygen delivery to the working muscles
- Increase flexibility which will aid performance

Cool Down

Phase 1: Light Exercise
E.g. Slow jogging at a much lower intensity than what you have been working at.

Phase 2: Stretching
Stretching the muscles you have used in the main activity.

Why we do a 'Cool Down'

- To remove lactic acid
- Improves flexibility
- Bring heart and breathing rate slowly back to resting
- To remove carbon dioxide
- Helps avoid dizziness due to blood pooling

Silent Movies

Key Terminology - BE EPIC

Believability	**B**	The quality of being believed, having credibility.
Exaggeration	**E**	To make something seem larger, more important, better, or worse than it actually is.
Expressions	**E**	The action of making known one's thoughts or feelings.
Point of Contact	**P**	The point at which the actor comes into contact with an object or another actor.
Imagination	**I**	The ability in the mind to create new ideas or concepts to be creative or resourceful.
Consistency	**C**	Acting or done in the same way over time, especially so as to be fair or accurate.

Why is it important to warm up before physical activity?

A warm-up activity serves two major purposes—to enhance performance and prevent injury. Consequently, a warm-up is both physical and mental.

Celebrating Differences

Key Terminology

Conclude	Arrive at a judgement or opinion by reasoning
Consequence	A result or effect, typically one that is unwelcome or unpleasant
Conscience	A person's moral sense of right and wrong viewed as acting as a guide to one's behaviour
Spectrum	Used to classify something in terms of its position on a scale between two extreme points
Speculate	Form a theory or conjecture about a subject without firm evidence
Interrelationship	The way in which each of two or more things is related to the other/s

What is a still image?

A still image is a frozen snapshot which communicates meaning to an audience. The four elements of a still image are:

- Facial expressions
- Body language
- Control
- Levels

Fantasy

Key Terminology

Fantasy	The faculty or activity of imagining impossible or improbable things.
Genre	A style or category of art, music or literature.
Inanimate	Showing no signs of life; lifeless. Not alive.
Infer	To deduce or conclude (something) from evidence and reasoning.
Extract	A short passage taken from a text, film or piece of music.
Evaluation	The making of a judgement about the amount, the number or value of something.

Body props

Body props is a drama technique where the actor creates the shape and form of a prop or object. This replaces the use of set/props and/or physical objects on stage.

Rehearsals

What does an effective rehearsal look like?

What does an effective rehearsal sound like?

What does an effective rehearsal feel like?

Beliefs, Philosophy and Ethics

Christianity					
1	**Christianity**	The religion based on the person and teachings of Jesus Christ.	11	**Resurrection**	The Christian service commemorating the Last Supper, in which bread and wine are consecrated and consumed.
2	**Jesus**	First-century Jewish teacher who Christians believe to be the Son of God.	12	**Ascension**	The ascent of Jesus Christ into heaven on the 40th day after his Resurrection.
3	**The Natavity**	The birth of Jesus Christ.	13	**Nicene Creed**	A statement of Christian beliefs.
4	**Immaculate Conception**	The teaching that God preserved the Virgin Mary from the taint of original sin.	14	**Trinity**	The three persons of the Christian godhead; Father, Son and Holy Spirit.
5	**Messiah**	A messiah is a saviour or liberator of a group of people. Christians believe Jesus to be the Messiah.	15	**Original Sin**	The evil within all human beings, inherited from Adam and Eve.
6	**Ministry**	The work of a religious person.	16	**Saint Augustine**	A Bishop who established the concept of Original Sin.
7	**Sermon on the Mount**	A collection of sayings and teachings attributed to Jesus Christ, which emphasises his moral teaching.	17	**Reformation**	A 16th-century movement for the reform of abuses in the Roman Church ending in the establishment of the Reformed and Protestant Churches.
8	**Beatitudes**	The blessings listed by Jesus in the Sermon on the Mount.	18	**Roman Catholic**	A branch of Christianity whose main source of authority is the Pope and the Bible.
9	**Last Supper**	The final meal that Jesus shared with his disciples before his crucifixion.	19	**Protestant**	A branch of Christianity whose main source of authority is the Bible.
10	**Eucharist**	The Christian service commemorating the Last Supper, in which bread and wine are consecrated and consumed.	20	**Evangelism**	Churches that stress the preaching of the gospel of Jesus Christ, personal conversion experiences and Scripture as the sole basis for faith.

Beliefs, Philosophy and Ethics

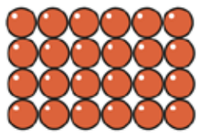
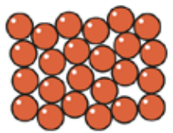
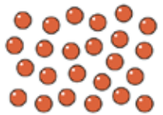
Judaism					
1	**Judaism**	An ethnic religion made up of the collective religious, cultural, and legal tradition and civilization of the Jewish people.	11	**Shabbat**	The Jewish day of rest.
2	**Monotheism**	The belief in one God.	12	**Pesach Passover**	Jewish celebration which remembers the Hebrews' freedom from slavery in Egypt.
3	**Torah**	The law of God as revealed to Moses and recorded in the first five books of the Hebrew scriptures.	13	**Seder**	A Jewish ritual service and ceremonial dinner for the first night or first two nights of Passover.
4	**Tanakh**	The Jewish Scriptures comprising the books of law, the prophets, and collected writings.	14	**Yom Kippur (Day of Atonement)**	The holiest day of the year where Jews spend most of the day in the Synagogue.
5	**Talmud**	The body of Jewish civil and ceremonial law and legend.	15	**Anti- Semitism**	Hostility to or prejudice against Jewish people.
6	**Orthodox Judaism**	A major branch within Judaism which teaches strict following of Jewish law and its traditional observances.	16	**Jewish Deicide**	The anti-Semitic belief that the Jewish people were collectively responsible for the death of Jesus.
7	**Reform Judaism**	A branch of Judaism which has reformed or abandoned aspects of Orthodox Jewish worship and ritual in an attempt to adapt to modern life.	17	**Persecution**	Hostility and ill-treatment, especially because of race or political or religious beliefs; oppression.
8	**Synagogue**	A Jewish place of worship.	18	**Genocide**	The deliberate killing of a large number of people from a particular nation or ethnic group with the aim of destroying that nation or group.
9	**The Western Wall**	The holiest site where Jews are allowed to pray, behind it lies the foundation stone.	19	**Holocaust (Shoah)**	The genocide of European Jews during WWII, committed by the Nazis, killing six million Jewish people.
10	**The Foundation Stone**	In traditional Jewish sources, it is considered the place from which the creation of the world began.	20	**Holocaust Memorial Day**	Holocaust Memorial Day is a national commemoration day in the United Kingdom dedicated to the remembrance of the Jews and others who suffered in the Holocaust, under Nazi persecution.

Particles

Explaining the properties of solids	
Property	**Reason**
Fixed shape & cannot flow	Particles cannot move from place to place
Cannot be compressed (squashed)	Particles are close together and have no space to move into

Explaining the properties of liquids	
Property	**Reason**
They flow and take the shape of their container	The particles can move around each other
They cannot be compressed (squashed)	The particles are close together and have no space to move into

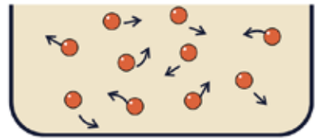
Explaining the properties of gases	
Property	**Reason**
They flow and completely fill their container	The particles can move quickly in all directions
They can be compressed (squashed)	The particles are far apart and have space to move into

State	Solid	Liquid	Gas
Diagram			
Arrangement of particles	Regular arrangement	Randomly arranged	Randomly arranged
Movement of particles	Vibrate about a fixed position	Move around each other	Move quickly in all directions
Closeness of particles	Very close	Close	Far apart

Particles

Gas Pressure

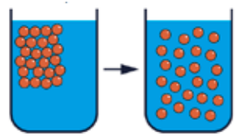
When gas particles hit the walls of their container, they cause pressure. The faster the particles move, the higher the gas pressure.



Diffusion

Diffusion is the movement of a substance from an **area of high concentration** to an **area of low concentration.**

Diffusion happens in **liquids** and **gases** because their particles move randomly from place to place.



Conservation of mass

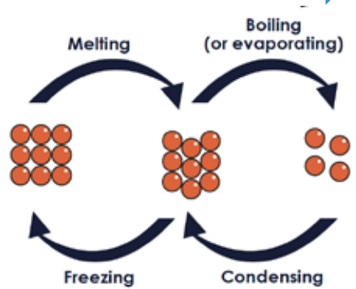
The particles stay the same when a substance changes state - only their **closeness, arrangement** or motion change. This means that the **mass of the substance stays the same.**

For example, 10g of water boils to form 10g of steam, or freezes to form 10g of ice. This is called **conservation of mass.**

Loosing energy

	Condensing	Freezing
Description	Gas to liquid	Liquid to solid
Closeness of particles	Become much closer together	Stay close together
Arrangement of particles	Stay random	Random to regular
Motion of particles	Stop moving quickly in all directions, and can only move around each other	Stop moving around each other, and only vibrate on the spot

Gaining energy



Loosing energy

Gaining energy

	Melting	Evaporating or boiling
Description	Solid to liquid	Liquid to gas
Closeness of particles	Stay close together	Become much further apart
Arrangement of particles	Regular to random	Stay random
Motion of particles	Start to move around each other	Start to move quickly in all directions

Particles

A pure substance contains only one type of particle.

For example:

- Pure iron contains only iron particles (called iron atoms);
- Pure water contains only water particles (called water molecules);
- Pure oxygen only contains oxygen particles (called oxygen molecules).

A mixture contains more than one type of particle that are NOT chemically joined together.

For example:

- Steel contains iron particles and small amounts of carbon particles (called carbon atoms);
- Tap water contains water particles and small amounts of other particles (called ions);
- Air contains 21% oxygen, 78% nitrogen and 1% of other gases (e.g. argon and carbon dioxide).

Dissolving is one way to make a mixture.

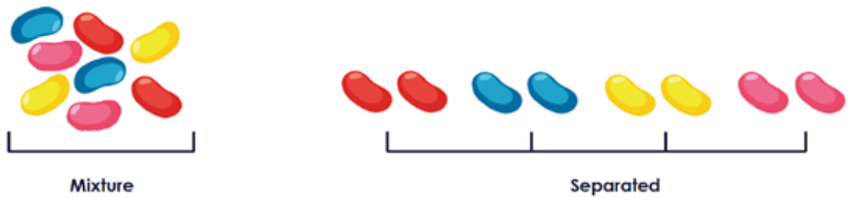
For example, when salt is stirred into water, the salt dissolves in the water to make salt solution. In a solution:

- the substance that dissolves is called the solute;
- the substance that the solute dissolves in is called the solvent.

For example, in salt solution, salt is the solute and water is the solvent. When you can't dissolve any more solute in a solvent, we say the solution is saturated.

We can separate mixtures in different ways depending on their properties:

- Filtration
- Evaporation
- Chromatography
- Distillation

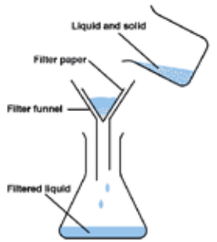


Particles

Filtration is a method for separating an **insoluble** solid from a liquid.

When a mixture of sand and water is filtered:

- The sand stays behind in the filter paper (it becomes the **residue);**
- The water passes through the filter paper (it becomes the **filtrate).**



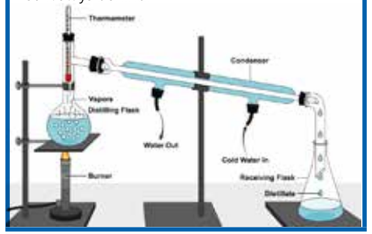
Evaporation is used to separate a **soluble** solid from a liquid.

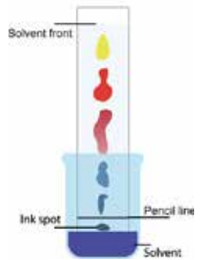
For example, copper sulphate is soluble in water – its crystals dissolve in water to form copper sulphate solution.

During evaporation, the water **evaporates** away leaving solid copper sulphate crystals behind.

Distillation is a method for separating the solvent from a solution.

For example, water can be separated from salt solution because water has a much lower boiling point than salt. When the solution is heated, the water **evaporates**. It is then cooled and **condensed** into a separate container. The salt does not evaporate and so it stays behind.



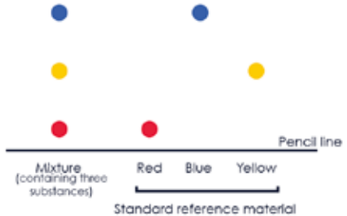


Chromatography is a method for separating dissolved substances from one another.

It works because some of the coloured substances dissolve better than others, so they travel further up the paper.

A pencil line is drawn, and spots of ink or dye are placed on it. There is a container of solvent (e.g. water or ethanol).

As the solvent continues to travel up the paper, the different coloured substances spread apart.



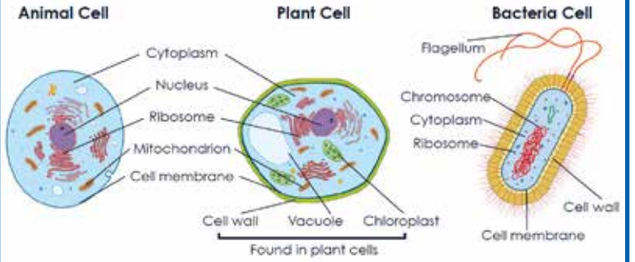
A **chromatogram**, the results of a chromatography experiment.

Definitions – Particles 7CP

1	**Particle**	• All matter is made up of tiny particles. • There are three states of matter: solid, liquid, and gas.
2	**Solid** 	• Particles are arranged in rows and are touching. • The particles have strong bonds between them. • They vibrate around a fixed position.
3	**Liquid** 	• Particles are randomly arranged and most are • touching. The particles have some bonds • between them and can move.
4	**Gas** 	• Particles are randomly arranged and don't touch. The particles have no bonds between • them and move quickly in all directions.
5	**Properties of solids**	• Fixed shape & cannot flow. • Cannot be compressed (squashed).
6	**Properties of liquids**	• They flow and take the shape of their container. • They cannot be compressed (squashed).
7	**Properties of gases**	• They flow and completely fill their container. • They can be compressed (squashed).
8	**Melting**	• Change of state from solid to liquid.
9	**During melting**	• Gain energy. • Stay close together. • Arrangement becomes random. • Start to move around each other.
10	**Evaporation**	• Change of state from liquid to gas.
11	**During evaporation**	• Gain energy. • Become much further apart. • Stay randomly arranged. • Start to move quickly in all directions.
12	**Condensation**	• Change of state from gas to liquid.
13	**Freezing**	• Change of state from liquid to solid.
14	**Filtration**	• A method for separating an insoluble solid from a liquid e.g. separating sand and water.
15	**Evaporation**	• Used to separate a soluble solid from a liquid.
16	**Distillation**	• A method for separating the solvent from a solution. For example, water can be separated from salt solution.
17	**Chromatography**	• A method for separating dissolved substances from one another e.g. for separating a mixture of inks.
18	**Pure substance**	• Contain only one type of particle. For example, pure iron contains only iron particles (called iron atoms).
19	**Mixture**	• Contains more than one type of particle that are not chemically joined together.
20	**Dissolving**	• When a solid is mixed with a liquid to form a solution, e.g. when salt dissolves in the water to make salt solution.
21	**Solute**	• The solid that dissolves, e.g. the salt.
22	**Solvent**	• The substance that the solute dissolves in e.g. the water.
23	**Soluble**	• A substance that will dissolve in a solvent.
24	**Insoluble**	• A substance that will not dissolve in a solvent.

Cells, tissues and organs

Unicellular organisms are made of one cell (e.g. bacteria)
Multicellular organisms are made of many cells (e.g. plants and humans)



Organelle	Function
Nucleus	Contains genetic material which controls the cell's activities
Cell Membrane	Controls the movement of substances in and out of the cell
Cytoplasm	Where chemical reactions happen
Mitochondria	Where energy is released in respiration
Ribosome	Where protein synthesis happens
Cell Wall	Provides strength and support
Chloroplast	Absorb light energy for photosynthesis (contains **chlorophyll**)
Vacuole	Filled with cell sap

Parts of the microscope

- Put the slide on the stage
- Always start on the lowest magnification as it gives you the widest field of vision
- Use the focus to see your object
- Then increase the magnification

These are some examples of specialised cells; cells that are adapted to do a specific job.

Sperm cell
Streamlined - Swim fast Lots of mitochondria that release energy for swimming

Palisade cell
Lots of chloroplasts that absorb sunlight for photosynthesis

Root hair cell
Large vacuole for storing cell sap Large surface area to absorb water and minerals more efficiently

Cells, tissues and organs

Cell → Tissue → Organ → Organ System

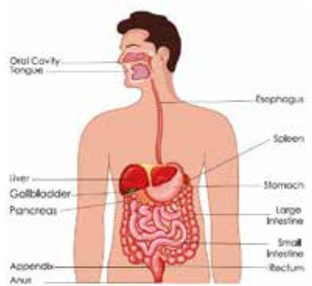
Cell	The smallest structural unit of all organisms
Tissue	Made from a group of cells with a similar structure and function, which all work together to do a particular job
Organ	Made from a group of different tissues, which all work together to do a particular job
Organ System	Made from a group of different organs, which all work together to do a particular job

Digestive system

Role: to break down large food molecules into smaller molecules that can be absorbed

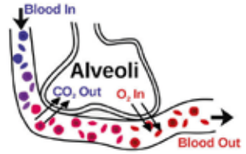
Adaptations

- The intestine is a highly folded structure, which increases surface area to speed up diffusion
- The intestine is covered in many villi which are further covered by microvilli = large surface area ⟶ faster rate of diffusion
- Thin membranes ⟶ shorter distance to diffuse ⟶ faster rate of diffusion
- Covered in blood vessels ⟶ keeps blood moving to maintain concentration differences ⟶ faster rate of diffusion



Respiratory system

Role: to take in oxygen for respiration and remove carbon dioxide



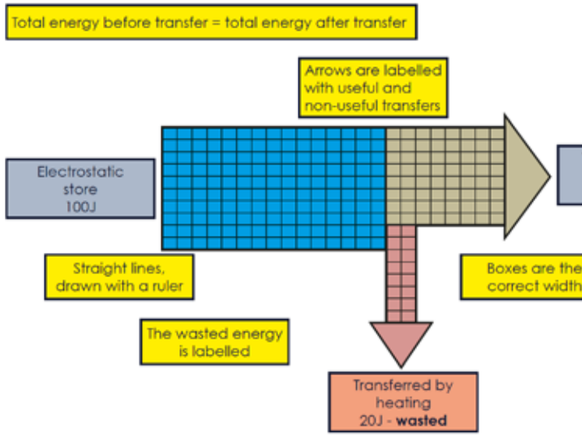
Inhaled air contains more oxygen than exhaled air. Exhaled air contains more carbon dioxide than inhaled air.

Main adaptations	
Trachea	Contains C ring cartilage which keeps the airway open leaving a clear passage for air to travel in and out of the lungs
Alveoli	**Thin membranes** ⟶ reduced diffusion distance **Good blood supply** ⟶ maintains concentration gradients **Highly folded membrane** ⟶ increased surface area All of the above adaptations ensure that **gas exchange**, by **diffusion,** happens efficiently.

Definitions – Cells, tissues and organs 7BC

1	**Cell**	• The building block of all living organisms.
2	**Organelle**	• A part within a living cell that serves a function e.g. nucleus.
3	**Nucleus**	• Contains DNA which controls the cell's activities.
4	**Cell Membrane**	• Controls the movement of substances in and out of the cell.
5	**Cytoplasm**	• Where most of the chemical reactions happen.
6	**Mitochondria**	• Where most energy is released in respiration.
7	**Ribosome**	• Where protein synthesis happens.
8	**Cell Wall**	• Strengthens the cell and supports the plant.
9	**Chloroplast**	• Absorbs light energy for photosynthesis (contains chlorophyll).
10	**Vacuole**	• Filled with cell sap to help keep the cell turgid to provide support.
11	**Root hair cell**	• A specialised plant cell that has a large surface area to absorb water.
12	**Palisade cell**	• A specialised plant cell found at the top of a leaf and has many chloroplasts to absorb sunlight.
13	**Sperm cell**	• A specialised animal cell that has many mitochondria for energy and a tail for swimming.
14	**Red blood cell**	• A specialised animal cell that has no nucleus to maximise the space for carrying oxygen.
15	**Unicellular organisms**	• Organisms made of one cell (e.g. bacteria).
16	**Multicellular organisms**	• Organisms made up of many cells (e.g. human).
17	**Tissue**	• Made from a group of cells with a similar structure and function, which all work together to do a particular job.
18	**Organ**	• Made from a group of different tissues, which all work together to do a particular job.
19	**Organ System**	• Made from a group of different organs, which all work together to do a particular job.
20	**Organisational hierarchy**	• [Smallest] cells ⟶ tissues ⟶ organs ⟶ organ systems [largest]
21	**Digestive system**	• Breaks down large insoluble molecules of food into smaller soluble molecules so they can be absorbed into the blood.
22	**Breathing system**	• Carries out gas exchange in animals.
23	**Magnification**	• Making something appear larger than it really is.
24	**Stage**	• Area on a microscope where the specimen is placed.
25	**Objective lens**	• Magnifies the image of the specimen. We always start with the lowest power objective lens when looking at a specimen.
26	**Eyepiece lens**	• The lens we look down, it magnifies the image of the specimen.
27	**Coarse/fine focus wheels**	• Used to focus the specimen so it can be seen clearly.

Energy



Energy supplied = useful energy + wasted energy

Efficiency (%) = $\frac{\text{Useful Energy Transferred (Joules)}}{\text{Total Energy Supplied (Joules)}}$ x 100 (%)

The energy laws:

1. Energy can not be destroyed or created, only transferred - this is called **conservation of energy;**

2. Energy tends to spread out and become less useful (e.g. hot objects always eventually cool down).

Power

Power is calculated by dividing energy transferred by time taken

$$P = E/t$$

P= Power (W); E = energy (J); t = time (s)

Power is a measure of how fast energy is being transferred.

Units of power:

watts (W);

kilowatts (kW).

Heat transfer – there are three ways to transfer heat:

1) Conduction – heat transfer in a solid;
The solid particles are always **vibrating**.
Heat makes the particles vibrate more.
Because they are **touching**, the particles **collide** with the particles next to them with more energy, and this transfers the heat along.

2) Convection – heat transfer in fluids (liquids and gases);
Particles in a fluid gain **energy** and **move further apart.**
This makes the fluid less **dense**, causing it to **rise**.

3) Radiation – heat transfer via **infra-red (thermal) radiation** – can travel through a vacuum.

Energy

Different energy stores:

- Chemical;
- Kinetic;
- Gravitational potential;
- Elastic potential;
- Magnetic;
- Electrostatic;
- Internal (or thermal);
- Nuclear.

We can measure the amount of energy in a store

Units of energy:

Joules (J);

Kilojoules (kJ);

Kilowatt-hours (kWh).

Pathways

There are 4 main pathways by which energy can be transferred:

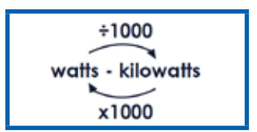
- by **mechanical** work (a **force** causing an object to move);
- by electrical work (when charges move due to a potential difference);
- by **heating** (due to a difference in temperature);
- by **radiation** (due to electromagnetic waves, e.g. light or to mechanical waves, e.g. sound).

Energy costs money

To work out how much it costs, you need to know:

- The amount of **units** of energy used (in **kWh** not **joules**);
- The **cost per unit** (1 unit is 1 kWh) – you will be told this.

Total cost (p) = number of kilowatt-hours (kWh) x cost per kilowatt-hour (p)



Renewable and non-renewable resources:

1) Non-renewable energy resources cannot be replaced once they are all used up;

- **Fossil fuels (coal, oil, gas)**
  - – Release carbon dioxide (a greenhouse gas and increases global warming) - release sulphur dioxide and nitrogen oxides, which cause acid rain.
- **Nuclear**
  - + Nuclear fuels do not produce carbon dioxide or sulphur dioxide;
  - – Non-renewable energy resources. They will run out one day;
  - – Risk of radioactive material being released into the environment.

2) Renewable energy resources can be replaced, and will not run out;

- **Wind**
  - + No release of carbon dioxide or sulphur dioxide
  - – If there is no wind, there is no electricity.
- **Water (wave, tidal or hydroelectric)**
  - + No release of carbon dioxide or sulphur dioxide
  - – If there is no wind, there is no electricity
  - – Difficult for wave machines to produce large amounts of electricity
  - – Tidal barrages destroy the habitats
  - – Hydroelectric floods farmland and can push people from their homes.
- **Geothermal**
  - + No release of carbon dioxide or sulphur dioxide
  - – Most parts of the world do not have suitable areas for geothermal.
- **Solar**
  - + No release of carbon dioxide or sulphur dioxide
  - – If there is no sunlight, there is no electricity.

You can work out how many units something uses if you know its power (in kW) and how long you have used it for (in hours):

Number of units of energy used (kWh) = power (kW) x time (s)

Definitions – Energy 7PE

1	**Energy Stores**	• Chemical – energy stored in the bonds of chemicals. • Kinetic – movement energy. • Gravitational potential - energy of an object due to its position in a gravitational field. • Elastic potential - when an elastic object is deformed. • Magnetic. • Electrostatic. • Internal (or thermal).
2	**Efficiency**	Efficiency = $\frac{\text{useful energy transferred}}{\text{total energy supplied}} \times 100$
3	**Joule (J)**	• Unit of energy.
4	**Watts (W)**	• Unit of power.
5	**Power**	• How fast energy is transferred. • The unit is Watts (W).
6	**Power equation**	• Power = Energy/time. • Energy in Joules and time in seconds.
7	**Conduction**	• Heat transfer from one particle to another when they are touching. This happens best in solids. • Metals also have delocalised electrons which makes conduction happen faster. • Can not travel through a vacuum as there are no particles in a vacuum.
8	**Convection**	• Heat transfer in fluids (liquids and gases). • Can not travel through a vacuum as there are no particles in a vacuum.
9	**Radiation**	• Heat transfer via infra-red (thermal) radiation. • Infra-red radiation can travel through a vacuum.
10	**Emit**	• Gives out thermal radiation. • Matt black surfaces are the best emitters.
11	**Conservation of Energy**	• Energy can not be created or destroyed, only transferred from one store to another.
12	**Energy Transfers**	• Mechanical work. • Electrical work. • Heating. • Radiation.
13	**Mechanical Work**	• When a force causes an object to move (measured in Joules).
14	**Non-renewable Resources**	• Fossil fuels (coal, oil and gas). • Nuclear fuels.
15	**Fossil Fuel**	• A natural fuel such as coal, oil or gas, formed in the past from the remains of living organisms.
16	**Renewable Energy Resources**	• Resources that are replaced as quickly as they are used.
17	**Examples of Renewable Energy Resources**	• Wind – using wind turbines. • Water - hydroelectric, tidal and wave. • Geothermal – using the heat from the Earth's core. • Solar – using the sun's energy.
18	**Temperature**	• A measurement of the average amount of energy of the particles in a substance.
19	**Energy**	• Total amount of energy of all the particles.
20	**Dissipation**	• Spread out to the surroundings as wasted energy – usually heat.

Chemical Reactions

The pH scale

Solutions can be acidic, alkaline or neutral:

- **acidic solutions** form when **acids** dissolve in water;
- **alkaline solutions** form when **alkalis** dissolve in water;
- solutions that are neither acidic nor alkaline are **neutral**;
- pure water is neutral.
- **Universal indicator** can tell us how strong acidic or alkaline a solution is. This is measured using the **pH scale**, which runs from pH 0 to pH 14:

- **the closer to pH 0** you go, the **more strongly acidic** it is;
- **the closer to pH 14** you go, the **more strongly alkaline** it is.

Oxidation reactions

An example of an oxidation reaction is where metals react with oxygen to make metal oxides.

metal + oxygen ⟶ metal oxide

e.g. magnesium + oxygen ⟶ magnesium oxide

Another example is a combustion reaction, where we burn fuels in oxygen:

Fuel + oxygen ⟶ carbon dioxide + water

We can represent theses reactions using **WORD EQUATIONS**

The substances that react together are called the **reactants**

The substances that are formed in the reaction are called the **products**

This shows that we are making something new

Acid used	Second part of salt's name
hydrochloric acid	chloride
sulfuric acid	sulfate
nitric acid	nitrate

Word equations

A word equation shows the names of each substance involved in a reaction:

iron + sulphur ⟶ iron sulfide

The substances that:

- react together are called the **reactants** (e.g. iron and sulphur);
- are formed in the reaction are called the **products** (e.g. iron sulphide).

Conservation of mass

Total mass of the reactants = Total mass of the products

We say that mass is conserved in a chemical reaction.

Naming Salts

The name of a salt has two parts:

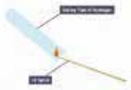
- the first part comes from the **metal** in the alkali used;
- the second part comes from the **acid** that was used.

Reacting metals with acids

metal + acid ⟶ metal salt + hydrogen

eg. zinc + hydrochloric acid ⟶ zinc chloride + hydrogen

To test if **hydrogen is produced**, hold a **lit splint** to the gas and listen for it to **burn with a squeaky pop.**



Hazard signs to be aware of when dealing with acid and alkalis:

Neutralisation

When an acid reacts with an alkali (or **base**), a **neutral** salt solution is formed.

This is called **neutralisation**.

acid + alkali ⟶ salt + water

e.g. sodium hydroxide + hydrochloric acid ⟶ sodium chloride + water

Potassium nitrate

From an alkali containing potassium, e.g. potassium hydroxide

From the acid "NITRIC ACID"

Definitions – Chemical Reactions 7CC

1	**Signs of a reaction**	Bubbles of gas released. Change in temperature. Colour change. Change in mass.
2	**Chemical reactions**	When substances are mixed together and you can not get the original materials back. E.g. Combustion. A few chemical reactions are reversible. Reactant + reactant Product.
3	**Physical changes**	When substances just change state and we can get the original reactants back E.g. Melting ice.
4	**Acid**	A solution with a pH of less than 7.
5	**Alkali**	A solution with a pH of more than 7.
6	**Neutral**	A solution with a pH of 7.
7	**Indicator**	A chemical that turns a different colour depending on whether it is added to acid or alkali. E.g. Litmus indicator – red in acid, blue in alkali. E.g. Universal indicator - used to measure how strongly acidic or alkaline a solution is.
8	**Conservation of Mass**	Total mass of reactants = total mass of the products.
9	**Neutralisation**	A reaction between an acid and an alkali making a neutral solution of salt and water.
10	**Neutralisation Reaction**	Acid + alkali salt + water

11	**Reactant**	The substances that react together in a chemical reaction.
12	**Product**	The substances that are produced in a chemical reaction.
13	**pH Scale**	Measures the strength of an acid or alkali. The solution is assigned a number between 0 and 14 (see diagram).
14	**Hydrochloric Acid**	Makes salts that end in chloride.
15	**Sulfuric Acid**	Makes salts that end in sulfate.
16	**Nitric Acid**	Makes salts that end in nitrate.
17	**Salt**	A substance that is made in a neutralisation reaction (see examples below).
18	**Calcium hydroxide + hydrochloric acid**	Calcium chloride.
19	**Magnesium oxide + nitric acid**	Magnesium nitrate.
20	**Copper oxide + nitric acid**	Copper nitrate.
21	**Potassium hydroxide + sulphuric acid**	Potassium sulfate.

Important Grammar

Nouns in Spanish can be masculine or feminine. If there is more than one thing they are masculine plural or feminine plural.
The word you use for 'a', 'some', 'a lot' or 'the' will depend on whether the noun is masculine (m), feminine (f), masculine plural (mp) or feminine plural (fp).

	a	some	a lot	the
m	un		mucho	el
f	una		mucha	la
mp		unos	muchos	los
fp		unas	muchas	las

un bolí unos bolís una regla unas reglas	a pen (m) some pens (mp) a ruler (f) some rulers (fp)
el bolí los bolís la regla las reglas	the pen the pens the ruler the rulers

Verbs

Infinitives – these mean '**to** do something' (e.g. to play, **to** be etc.).

In Spanish there are 3 types of infinitive.

They are '-**ar**', '-**er**' and '-**ir**' verbs. (jug**ar** – **to** play, com**er** – **to** eat, viv**ir** – **to** live)

The present tense – regular verbs

Take the ending off the infinitive and replace it with the correct ending for the person you want to talk about:

	-ar	-er	-ir
I (yo)	-o	-o	-o
You (tú)	-as	-es	-es
He/She/It (él/ella)	-a	-e	-e
We (nosotros)	-amos	-emos	-imos
You pl (vosotros)	-áis	-éis	-ís
They (ellos/ellas)	-an	-en	-en

Ejemplo: hab**lar** = **to** speak so habl**o** = **I** speak (as it is an -ar verb).

Stem-changing verbs – some Spanish verbs change a bit at the start of the verb as well as the end except for the we and you pl forms.

Juego (I play) jugamos (we play)

Juegas (you play) jugáis (you play) pl

Juega (he/she plays) juegan (they play)

Gusta and gustan

Opinion phrases with '**me**' in them add an extra 'n' if talking about something plural.

Ejemplos

Me gusta **el** inglés

Me gusta**n las** matemática**s**

Me gusta**n** el inglés **y** la historia

!! If you want to talk about someone else he or she) just change the 'me' to 'le'.

Possessive adjectives – my, your, his, her.

	my	your	his/her
singular	mi	tu	su
plural	mis	tus	sus

Making adjectives agree

If you use an adjective to describe something the ending may change depending on whether what you are describing is masculine, feminine, masculine plural or feminine plural.

Ending	m	f	mp	fp
-e	grande	grande	grandes	grandes
-o	listo	lista	listos	listas
Consonant	azul	azul	azules	azules
-z	feliz	feliz	felices	felices
-ista	optimista	optimista	optimistas	optimistas

Irregular verbs – some verbs don't follow the pattern above and you just have to learn these ones. These are some of the most common irregular verbs:

	tener (to have)	ser (to be)	ir (to go)	hacer (to do/ make
I (yo)	tengo	soy	voy	hago
You (tú)	tienes	eres	vas	haces
He/She/It (él/ella)	tiene	es	va	hace
We (nosotros)	temenos	somos	vamos	hacemos
You pl (vosotros)	tenéis	sois	vais	hacéis
They (ellos/ellas)	tienen	son	van	hacen

The near future tense – going to do something. Use the right form of 'ir' (to go), put 'a' in the middle and add an infinitive.

I'm going	Voy a
You're going	Vas a
He/she/it is going	Va a
We're going	Vamos a
You (pl) are going	Vais a
They're going	Van a

+ infinitive (jugar, salir, ir, ser, montar, hacer, comer, vivir etc.).
E.g. voy a jugar = I'm going to play, vamos a salir = we're going to go out.

Connectives

y - and
pero - but
porque - because
o - or
también - also
además - moreover
luego - later
sin embargo - however
no obstante - however
sino - if not/but
así que - so (that)
Por eso - therefore
por lo tanto - therefore
aunque (+ subjunctive) - although/even if

Opinions**

en mi opinión - in my opinion
personalmente - personally
lo bueno es - the good thing is
lo malo es - the bad thing is
a mi parecer - in my opinion
pienso que - I think that
creo que - I believe that
Lo que más me gusta es - what I like most is
Lo que menos me gusta es - what I like least is
me parece que - it seems to me that
desde mi punto de vista - from my point of view
lo mejor es… - the best thing is…
lo peor es… - the worst thing is…
lo más importante es… - the most important thing is…
lo menos importante es… - the least important thing is…
lo que me interesa es… - what interests me is…
**** see also opinion phrases in other units (I like etc)**

Frequency

generalmente - generally
normalmente - normally
siempre - always
a veces - sometimes
cada día - every day
a menudo - often
todos los días - every day
de vez en cuando - from time to time
(casi) nunca - (almost) never
en mi tiempo libre - in my free time
el fin de semana - at the weekend
una vez a la semana - once a week

Comparatives and Superlatives

es más (importante) que - it's more (important) than
es menos (importante) que - it's less (important) than
Es tan (importante) como… - it's as (important) as…
El/la mejor – the best
El/la peor – the worst
El/la más (importante)… - the most (important)…
El/la peor (importante)… - the least (important)…

Exclamations

¡Qué horror! How horrible!
¡Qué bien! Great!
¡Qué chulo! Cool!
¡Qué guay! How cool!
¡Ni en broma! No way!
¡Qué lastima! - What a shame!
¡Qué rollo! - What a pain/bore!
¡Qué desastre! - What a disaster!
¡Qué asco! - How disgusting!

Time fillers

a, sí, sí - yes, yes
ya - yeah
bueno - well
pues - so
a ver - let's see
plural déjame pensar - let me think

Sequencers

por la mañana - in the morning
por la tarde - in the afternoon
por la noche - in the evening
primero - firstly
luego - then
después - next
por fin - al last
finalmente - finally
el primer día - the first day
más tarde - later
antes - before
después - after
para empezar - to begin

Agreeing / disagreeing

claro que sí/no - of course (not)
opino lo mismo - I think the same
es cierto - it's certain
¿Estás loco/a? - Are you mad?
(no) tienes razón - you're right, wrong
(no) estoy de acuerdo - I (dis)agree
comparto tu punto de vista - I share your point of view
también me parece que - it also seems to me that
tampoco me parece que - neither does it seem to me that
te equivocas - you're wrong/mistaken
Por un lado…por otro lado - on the one hand…on the other hand

Justifying opinions

porque (no) es… - because it is (not)
ya que es - as it is
dado que es - given that it is
puesto que es - since it is
según (mis padres) es… - according to (my parents) it is…
parece - it seems
debido a - due to
a causa de - because of
una ventaja es - an advantage is…

Time markers

El presente
el lunes - on Monday
los jueves - on Thursdays
ahora - now
hoy - today
hoy en día - nowadays
El pasado
ayer - yesterday
anoche - last night
la semana pasada - last week
en aquella época - in that time
desde/hace dos años - two years ago
cuando tenía cinco años - when I was 5 years old
El futuro
mañana - tomorrow
en el futuro - in the future
el fin de semana próximo - next weekend
El año que viene - next year
dentro de seis meses - in six months' time

Questions

¿Qué? - What?
¿Quién? - Who?
¿(A)dónde? - Where (to)?
¿Cómo? - How?
¿Cuál? - Which?
¿Cuándo? - When?
¿Por qué? - Why?
¿A qué hora? - At what time?
¿Qué piensas de..? - What do you think about..?
¿Cuál es tu opinión? - What is your opinion?
¿Cuál es la diferencia? - What is the difference?
¿Qué hay? - What is there?
¿Por qué dijiste eso? - Why did you say that?

Unit 1: Me Presento
Introducing Myself

Saludos	Greetings¡Hola! Hello!
¿Qué tal?	How are you?
Bien, gracias.	Fine, thanks.
Fenomenal	Great
Regular	Not bad
Fatal	Awful
¿Cómo te llamas?	What are you called?
Me llamo…	I am called…
¿Dónde vives?	Where do you live?
Vivo en…	I live in…
¡Hasta luego!	See you later!
¡Adiós!	Goodbye!

Los días de la semana	The days of the week
Lunes	Monday
Martes	Tuesday
Miércoles	Wednesday
Jueves	Thursday
Viernes	Friday
Sábado	Saturday
Domingo	Sunday
Los lunes	On Mondays
Los martes	On Tuesdays

Qué tipo de persona eres?	What sort of person are you?
Divertido/a	Amusing
Estupendo/a	Brilliant
Fenomenal	Fantastic
Generoso/a	Generous
Genial	Great
Guay	Cool
Listo/a	Clever
Serio/a	Serious
Simpático/a	Nice, kind
Sincero/a	Sincere
Tímido/a	Shy
Tonto/a	Silly
Tranquilo/a	Quiet, calm

¿Qué te gusta hacer?	What do you like to do?
Me gusta…	I like…
Me gusta mucho…	I really like…
No me gusta…	I don't like…
No me gusta nada…	I don't like at all…
Chatear	To chat online
Escribir correos	To write emails
Escuchar música	To listen to music
Jugar a los videojuegos	To play video games
Leer	To read
Mandar sms	To send text messages
Navegar por internet	To surf the net
Salir con mis amigos	To go out with friends
Ver la television	To watch TV
Porque es…	Because it is…
Porque no es…	Because it is not…
Aburrido/a	Boring
Divertido/a	Amusing, funny
Estúpido/a	Stupid
Guay	Cool
Interesante	Interesting

Frecuencia	Frequency
A veces	Sometimes
De vez en cuando	From time to time
Nunca	Never
Todos los días	Every dayr!
¡Adiós!	Goodbye!

¿Qué haces en tu tiempo libre?	What do you do in your spare time?
Bailo	I dance
Canto karaoke	I sing karaoke
Hablo con mis amigos	I talk with my friends
Monto en bici	I ride my bike
Saco fotos	I take photos
Toco la guitarra	I play the guitar

¿Qué tiempo hace?	What's the weather like?
Hace calor	It's hot
Hace frío	It's cold
Hace sol	It's sunny
Hace buen tiempo	It's nice weather
Llueve	It's raining
Nieva	It's snowing
¿Qué haces cuando llueve?	What do you do when it's raining?

¿Cuántos años tienes?	How old are you?
Tengo… años.	I am… years old.
¿Cuándo es tu cumpleaños?	When is your birthday?
Mi cumpleaños es el… de…	My birthday is the…of…
Enero	January
Febrero	February
Marzo	March
Abril	April
Mayo	May
Junio	June
Julio	July
Agosto	August
Septiembre	September
Octubre	October
Noviembre	November
Diciembre	December

Mi pasión	My passion
Mi pasión es…	My passion is…
Mi héroe es…	My hero is…
El deporte	Sport
El fútbol	Football
La música	Music
El tenis	Tennis

Las estaciones	The seasons
La primavera	Spring
El verano	Summer
El otoño	Autumn
El invierno	Winter

¿Qué deportes haces?	What sports do you do?
Hago artes marciales.	I do martial arts.
Hago atletismo.	I do athletics.
Hago equitación.	I do/go horseriding.
Hago gimnasia.	I do gymnastics.
Hago natación.	I do/go swimming.
Juego al baloncesto.	I play basketball.
Juego al fútbol.	I play football.
Juego al tenis.	I play tennis.
Juego al voleibol.	I play volleyball.
¡Me gusta!	I like it!
¡Me gusta mucho!	I like it a lot!
¡Me gusta muchísimo!	I really, really like it!
¡Me encanta!	I love it!

Los números	
Uno	1
Dos	2
Tres	3
Cuatro	4
Cinco	5
Seis	6
Siete	7
Ocho	8
Nueve	9
Diez	10
Once	11
Doce	12
Trece	13
Catorce	14
Quince	15
Dieciséis	16
Diecisiete	17
Dieciocho	18
Diecinueve	19
Veinte	20
Veintiuno	21
Veintidós	22
Veintitrés	23
Veinticuatro	24
Veinticinco	25
Veintiséis	26
Veintisiete	27
Veintiocho	28
Veintinueve	29
Treinta	30
Cuarenta	40
Cincuenta	50
Sesenta	60
Setenta	70
Ochenta	80
Noventa	90
Cien/ciento	100

Unit 2: Mi familia y otros animales (My family and other animals)

¿Qué animales tienes?	What animals do you have?
¿Qué animales quieres /prefieres?	What animals do you want/ prefer?
Tengo…	I have…
Prefiero…	I prefer…
Quisiera/ me gustaría…	I would like…
Un gato	A cat
Un perro	dog
Un caballo	A horse
Un ratón	A mouse
Un pez	A fish
Un conejo	A rabbit
Una serpiente	A snake
Una cobaya	A guinea pig

¿Cuál es tu animal favorito?	What is your favourite animal?
Mi animal favorito es… porque/ ya que es…is…	My favourite animal because it is…
cariñoso/ a	loving
mono/ a	cute
como un peluche	like a teddy-bear
peludo/ a	fluffy
suave	soft
inteligente	intelligent
valiente	brave
amable	friendly

Los colores Colours	
Blanco	White
Negro	Black
Rojo	Red
Amarillo	Yellow
Morado	Purple
Gris	Grey
Verde	Green
Azul	Blue
Rosa	Pink
Naranja	Orange

Remember to check the ending if the noun you are describing is feminine or plural.

¿Cuántas personas hay en tu familia?	How many people are there in your family?
En mi familia hay/no hay…	In my family there is / there isn't…
Mi madre	My mum
Mi padre	My dad
Mi hermana	My sister
Mi hermano	My brother
Mi abuela	My grandma
Mi abuelo	My granddad
Mi prima	My female cousin
Mi primo	My male cousin
Mi sobrina	My niece
Mi sobrino	My nephew

¿Cómo se llama tu padre?	What is your dad called?
Se llama…	He/ she is called…
¿Cuántos años tiene tu padre?	How old is your dad?
Tiene … años	He/ she is … years old

You can replace 'padre' with any family member or the name of someone.

Example

¿Cuántos años tiene Juan?
How old is Juan?

Los números	
Uno	1
Dos	2
Tres	3
Cuatro	4
Cinco	5
Seis	6
Siete	7
Ocho	8
Nueve	9
Diez	10
Once	11
Doce	12
Trece	13
Catorce	14
Quince	15
Dieciséis	16
Diecisiete	17
Dieciocho	18
Diecinueve	19
Veinte	20
Veintiuno	21
Veintidós	22
Veintitrés	23
Veinticuatro	24
Veinticinco	25
Veintiséis	26
Veintisiete	27
Veintiocho	28
Veintinueve	29
Treinta	30
Cuarenta	40
Cincuenta	50
Sesenta	60
Setenta	70
Ochenta	80
Noventa	90
Cien/ciento	100

Unit 2: Mi familia y otros animales (My family and other animals)

¿Cómo eres?	What are you like?
¿Cómo es?	What is he/she like?
Tengo los ojos…	I have… eyes
Tiene los ojos…	He/she has… eyes
Azules	Blue
Verdes	Green
Marrones	Brown
Grises	Grey
Grandes	Big
Pequeños	Small
Tengo el pelo…	I have… hair
Tiene el pelo…	He/she has… hair
Moreno	Dark-brown
Castaño	Mid-brown, chestnut
Rubio	Blond
Rojo	Red
Corto	Short
Largo	Long
Rizado	Curly
Liso	Straight
Ondulado	Wavy
Soy…	I am…
Es…	He/she is…
Alto/a	Tall
Bajo/a	Short
Delgado/a	Slim
Gordito/a	Chubby
Gordo/a	Fat
Calvo/a	Bald
Moreno/a	Dark-haired
Rubio/a	Fair-haired
Castaño/a	Brown-haired
Pelirrojo/a	Red-haired
No es ni gordo/a ni delgado/a	He/she is neither fat nor thin

¿Qué haces (con tu familia/amigos)?	What do you do (with family/friends)?
Cuando tengo tiempo…	When I have time…
Después del insti…	After school…
Los fines de semana…	At weekends…
Los (lunes)…	On (Mondays)…
Por la mañana / tarde…	In the morning/ afternoon/evening…
Por la noche…	At night…
Cocino	I cook
Juego al futbolín / al squash	I play table football / squash
Monto en bici / monopatín	I ride my bike / skateboard
Toco la guitarra / la trompeta	I play the guitar / trumpet
Voy / vamos…	I go / we go…
Al polideportivo / al centro Comercial / a la pista de Hielo / a la bolera	To the sports centre / to the Shopping centre / to the ice rink / to the bowling alley
Suelo…	I tend to /I usually…
Descansar	Rest
Escuchar música / la radio	Listen to music / the radio
Hacer deporte	Do sport
Ir al cine	Go to the cinema
Leer libros / revistas / periódicos	Read books/magazines /newspapers
Salir con amigos	Go out with friends
Usar el ordenador	Use the computer
Ver la tele	Watch TV
Es divertido / sano	It's fun / healthy
Soy…	I am…
Activo/a / creativo/a	Active / creative
Sociable / adicto/a a…	Sociable / addicted to…
Me hace reír / relajarme	It makes me laugh / relax
Necesito estar…	I need to be…
Al aire libre	Outdoors
En contacto con otra gente	In touch with other people

¿Cómo es su personalidad?	What is he/she like as a person?
Como persona, es…	As a person, he/she is…
Optimista	Optimistic
Pesimista	Pessimistic
Trabajador(a)	Hard-working
Perezoso/a	Lazy
Hablador(a)	Chatty
Tímido/a	Shy
Divertido/a	Fun
Serio/a	Serious
Gracioso/a	Funny
Generoso/a	Generous
Fiel	Loyal
Molesto/a	Annoying
Travieso/a	Naughty
Estricto/a	Strict
Malhumorado/a	Bad tempered/moody
Cariñoso/a	Loving/affectionate
Alegre	Cheerful
Enérgico/a	Energetic
Animado/a	Lively
Pensativo/a	Thoughtful
Egoísta	Selfish
Comprensivo/a	Understanding

Notes

Notes

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Y7 KNOWLEDGE ORGANISER

SEPTEMBER 2024 TO FEBRUARY 2025