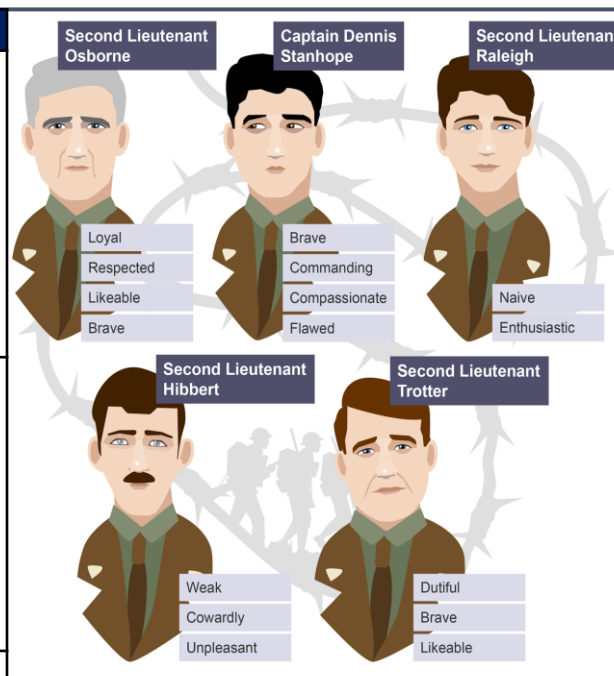


# Year 9 End of Year Knowledge Organiser



## Unit 7 - Conflict– Knowledge Organiser

Journeys End	
<b>Act 1</b>	<ol style="list-style-type: none"> <li>Hardy is drying his damp sock with a candle; Osborne arrives to relieve him of his duty.</li> <li>Hardy tells Osborne about the German trucks that signal an attack approaching.</li> <li>Raleigh arrives and reveals to Osborne how he knew Stanhope from home.</li> <li>This cause tension once Stanhope and Raleigh meet and, after Raleigh goes on duty, Stanhope gets drunk and is put to bed.</li> </ol>
<b>Act 2</b>	<ol style="list-style-type: none"> <li>The Colonel visits to inform Stanhope that Osborne and Raleigh are to direct a raid on the German trenches in order to find out information for the big attack.</li> <li>Hibbert attempts to go home</li> <li>Osborne takes news of the raid bravely and insists that Trotter doesn't tell Raleigh about the true nature of the raid.</li> </ol>
<b>Act 3</b>	<ol style="list-style-type: none"> <li>Raleigh and Osborne prepare for the raid.</li> <li>Osborne is killed by a hand grenade waiting for Raleigh.</li> <li>A German prisoner is captured, but very little information is gotten from him.</li> <li>Raleigh returns from the raid in a daze- shocked at the brutal reality of war.</li> <li>Despite the attack being at 6 a.m. in the morning, Stanhope is determined to get drunk.</li> <li>Raleigh refuses to eat in the dugout, believing the men are celebrating despite Osborne's death.</li> <li>When the attack comes, Trotter is first up, followed by Raleigh</li> <li>Stanhope learns Raleigh has been hit in the back by a shell and is paralysed</li> <li>Stanhope hides the true nature of Raleigh's injuries. Raleigh dies alone.</li> <li>The entire dugout is destroyed- symbolising the deaths of all the men.</li> </ol>



Context
<p><b>World War 1:</b></p> <ol style="list-style-type: none"> <li>Journey's End was written in 1928 and is about the experiences of soldiers in World War One.</li> <li>This war took place from 1914 until 1918. The play is set in the trenches near Saint-Quentin in France in 1918, towards the end of WW1.</li> <li>The story plays out over four days and focuses on officers in a dugout from 18<sup>th</sup> March 1918 until the 21<sup>st</sup>.</li> </ol>
<p><b>Shell Shock:</b></p> <ol style="list-style-type: none"> <li>In the early years of World War One, shell shock was believed to be the result of a physical injury to the nerves and being a victim to enemy attacks.</li> <li>However, it soon was used to describe the mental illness that was caused by the experiences of war. Now it is more commonly known as Post Traumatic Stress Disorder (PTSD).</li> </ol>

Vocabulary and Subject Terms	
<b>Conflict</b>	a disagreement or argument. This could be physical, verbal, emotional or psychological.
<b>Comradeship</b>	the feeling of friendship between people who live or work together, especially in a difficult situation.
<b>Cowardice</b>	A lack of bravery which stops someone from taking a risk or facing danger
<b>Heroism</b>	Having great bravery and courage.
<b>Futile</b>	not producing a result, seems pointless
<b>Insubordination</b>	A refusal to follow (obey) orders
<b>Propaganda</b>	information which is one-sided (bias) used to promote a political cause or point
<b>Patriotism</b>	the feeling of loving your country more than any others and being proud of it.
<b>Elision</b>	the dropping of sounds at the beginning or end of a word.
<b>Euphemism</b>	a word/phrase used to avoid saying an unpleasant or offensive word
<b>Colloquial Language</b>	language used in every day spoken language. Casual and conversational.

## Unit 7 Conflict – Knowledge Organiser

Journeys End		Vocabulary and Subject Terms			
<b>Act 1</b>	1. Hardy is drying his damp sock with a candle; Osborne arrives to relieve him of his duty. 2. 3. 4.			<b>Conflict</b>	
<b>Act 2</b>	1. The Colonel visits to inform Stanhope that Osborne and Raleigh are to direct a raid on the German trenches in order to find out information for the big attack. 2. 3.			<b>Comradeship</b>	
<b>Act 3</b>	1. Raleigh and Osborne prepare for the raid. 2.. 3. 4. 5. 6. 7. 8. 9. 10.	<b>Context</b>		<b>Cowardice</b>	
		<b><u>World War 1:</u></b> 1. Journey's End was written in 1928 and is about the experiences of soldiers in World War One. 2. 3.		<b>Heroism</b>	
		<b><u>Shell Shock:</u></b> 1. 2.		<b>Futile</b>	
				<b>Insubordination</b>	
				<b>Propaganda</b>	
				<b>Patriotism</b>	
				<b>Elision</b>	
				<b>Euphemism</b>	
				<b>Colloquial Language</b>	

## Unit 7 - Conflict– Knowledge Organiser

Sentence structures		Form and structure - Poetry	Imagery and implied meaning - Poetry
<b>Declarative</b> - Makes a statement and ends with a full stop.		<b>Line</b> - A subdivision of a poem; a group of words arranged into a row that ends for a reason other than the right-hand margin	<b>Personification</b> - Giving human qualities to something that is inhuman
<b>Imperative</b> - A command or a polite request. It ends with an exclamation mark or a full stop			<b>Simile</b> - A comparison of one thing with another thing of a different kind, used to make a description more emphatic or vivid; uses 'as' or 'like'
<b>Interrogative</b> - Asks a question and ends with a question mark		<b>Stanza</b> - The main building block of a poem. It is a unit of poetry made up of lines that relate to a similar thought or topic—like a paragraph in prose or a verse in a song.	<b>Symbolism</b> - Using symbols, (words, people, locations, or abstract ideas) to represent something beyond the literal meaning.
<b>Exclamatory</b> - Expresses excitement or emotion. It ends with an exclamation mark			<b>Metaphor</b> - this describes a person or object by linking to something that is thought to have similar qualities to that person or object.
<b>Independent clause</b> - A clause that can stand alone as a sentence. Remember that a sentence has a subject and a verb.			<b>Rhyme - Poetry</b>
<b>dependant/subordinate clause</b> - Is one that cannot stand alone as a complete sentence		<b>Enjambment</b> - A sentence or clause continues across a line break.	<b>Full Rhyme</b> - The repetition of the same sound, at the end of a line of poetry.
<b>Simple sentence</b> - Has just one independent clause.		<b>End-stop</b> - A pause at the end of a line of poetry.	<b>Half Rhyme</b> - Words with similar but not exact rhyme. This is also known as slant rhyme or imperfect rhyme. Like grieve and believe.
<b>Compound</b> - Has at least two independent clauses.		<b>Caesura</b> - A pause that occurs within a line of poetry.	<b>End Rhyme</b> - These are rhymes that occur between the final words of two lines of poetry.
<b>Complex</b> - Has an independent clause and at least one dependent/subordinate clause.		<b>Couplet</b> - Two lines of poetry next to each other, especially ones that rhyme	<b>Internal Rhyme</b> - Internal rhyme occurs in a single line of poetry or between internal sentences
<b>Appositive phrase</b> - A noun or a noun phrase that sits next to another noun to rename it or to describe it in another way.		<b>Tercet</b> - A three-lined stanza, or a group, or unit of three lines.	<b>Repetition and Emphasis - Poetry</b>
Imagery and implied meaning		<b>Quatrain</b> - A four line stanza, or a four line complete poem.	<b>Repetition</b> - The same word or phrase being used multiple times to create impact.
<b>Connotation</b>	A feeling or idea that is suggested by a particular word, or something suggested by an object or situation.	<b>Sonnet</b> - A fourteen line poem with a fixed rhyme scheme. Often, sonnets use iambic pentameter.	<b>Anaphora</b> - Repetition of the same word or phrase at the start of consecutive sentences or sentence clauses.
<b>Motif</b>	A repeated image throughout the text	<b>Free Verse</b> - poetry which does not follow any rhythm or rhyme scheme rules.	<b>Epiphora / Epistrophe</b> - Repetition of the same word or phrase at the end of consecutive sentences or sentence clauses.
<b>Slang</b>	a type of colloquial language--often involves vulgar (rude) language		<b>Epizeuxis</b> - Repetition of a word or phrase in quick succession
<b>Allusion</b>	An allusion is a reference, usually short, to a person, place, thing, event, or other literary work with which the reader is presumably familiar		
<b>Foreshadow</b>	To act as a warning or sign of a future event.		

## Unit 7 - Conflict– Knowledge Organiser

Sentence structures		Form and structure - Poetry	Imagery and implied meaning - Poetry
Declarative -		_____A subdivision of a poem; a group of words arranged into a row that ends for a reason other than the right-hand margin	Personification-
Imperative -			Simile -
Interrogative -			Symbolism -
Exclamatory -		_____The main building block of a poem. It is a unit of poetry made up of lines that relate to a similar thought or topic—like a paragraph in prose or a verse in a song.	Metaphor-
Independent clause -			
dependant/subordinate clause		_____A sentence or clause continues across a line break.	<b>Rhyme - Poetry</b>
Simple sentence -		_____A pause at the end of a line of poetry.	Full Rhyme -
Compound -			Half Rhyme -
Complex -		_____A pause that occurs within a line of poetry.	End Rhyme -
Appositive phrase -		_____Two lines of poetry next to each other, especially ones that rhyme	Internal Rhyme -
Imagery and implied meaning		_____A three-lined stanza, or a group, or unit of three lines.	<b>Repetition and Emphasis - Poetry</b>
	A feeling or idea that is suggested by a particular word, or something suggested by an object or situation.	_____A four line stanza, or a four line complete poem.	Repetition -
	A repeated image throughout the text	_____A fourteen line poem with a fixed rhyme scheme. Often, sonnets use iambic pentameter.	Anaphora -
	a type of colloquial language--often involves vulgar (rude) language		_____poetry which does not follow any rhythm or rhyme scheme rules.
	An allusion is a reference, usually short, to a person, place, thing, event, or other literary work with which the reader is presumably familiar		Epizeuxis -
	To act as a warning or sign of a future event.		

Short Story Summaries		Knowledge Organiser		
<p><b>Examination Day</b> - A future society where individuals undergo a mandatory intelligence test at age twelve. The government claims that those who fail are "removed." The narrative follows a young boy named Dickie, who excels academically but is tragically revealed to be too intelligent for the authorities.</p>	<p><b>Fahrenheit 451</b> - Fireman Montag burns books until he questions censorship, seeks knowledge, and escapes oppressive society that fears independent thought.</p>	<b>Dystopian Conventions</b>		
		<b>Key Vocabulary</b>		
<p><b>The Lottery</b> - Each year, the townspeople participate in a ritualistic lottery, selecting a "winner" through a draw. As the story unfolds, the true nature of the lottery becomes shockingly apparent, revealing the dark undercurrents of blind tradition and the consequences of collective complicity in cruelty.</p>	<p><b>1984</b>- Winston rebels against totalitarian surveillance state called Big Brother. Winston seeks truth and love, but oppressive regime ultimately crushes his resistance and individuality.</p>	<p><b>Propaganda</b>- images, information, opinions that are broadcast, published to influence people's opinions</p>	<p><b>Dystopia</b>- an imagined state where there is suffering or injustice</p>	
		<p><b>Figurehead</b>- A person or idea is <b>worshipped</b> by the citizens of the society.</p>	<p><b>Dictator</b>- a ruler with complete power, often one who got control by force.</p>	
		<p><b>Individuality is bad</b> – everyone does the <b>same</b> thing.</p>	<p><b>Totalitarian</b> - a system of government requiring total obedience by the citizens</p>	
		<p>Citizens have a <b>fear</b> of the outside world.</p>	<p><b>Indoctrinate</b> - to an idea or belief until accepted without criticism or question.</p>	
		<p><b>Restriction</b>- Information, independent thought, and freedom are restricted.</p>	<p><b>Subversion</b>- the act of trying to destroy or damage a system or government</p>	
<p><b>There Will Come Soft Rains</b> - A fully automated house continues to perform its daily routines despite the absence of its human inhabitants, who have been wiped out by nuclear war. As the house gradually deteriorates, the story explores themes of technology, the fragility of humanity, and the inevitability of nature's persistence.</p>	<p><b>The City Planners</b>- The City Planners describes a very neat and controlled neighbourhood where everything looks the same. The planners design streets and houses to be perfect, but this makes the area feel dull and lifeless. Even though everything seems tidy, there are hints that things could fall apart underneath. The story suggests that people cannot fully control nature or life, no matter how hard they try.</p>	<p><b>Surveillance</b>- careful watching of a person or place e.g. cameras, helicopter, voice recording</p>	<p><b>Utopia</b>- a perfect society in which people work well with each other and are happy</p>	
		<p>The natural world is <b>banished</b> and <b>distrusted</b>.</p>	<p><b>Oppression</b> - When one group in power denies rights to another.</p>	
			<p><b>Omnipresent</b> - Everywhere</p>	
			<p><b>Manipulation</b> - controlling someone or something to your own advantage</p>	
			<b>Subject Terminology</b>	
			<p><b>Narrative Hook</b>- how the writer creates an interesting opening in order to: <b>Grab reader attention; Establish a flawed/controlled world; Hint at conflict, danger, or injustice; Raise questions</b></p>	
			<p><b>Imperative verbs</b> – A verb that expresses a command. <i>'Come here.'</i></p>	
			<p><b>Motif</b> – a motif is a symbolic image or idea that appears frequently in a story.</p>	
			<p><b>Abstract Noun</b> - A noun that cannot be perceived using one of the five senses (<i>e.g. feeling/idea</i>)</p>	

#### Types of Narrative Hooks

1. Introduce an unusual character
2. Hint at danger or conflict
3. Show a strong emotion
4. Start at a moment of change
5. Use a memory or flashback
6. State a rule that will be broken
7. Focus on an unusual object

#### Types Narrative Dystopian Hooks

8. Use a countdown or deadline
9. Start with action
10. Use a shocking statement
11. Ask a question
12. Introduce a mystery or secret
13. Begin with dialogue
14. Create a vivid setting

Short Story Summaries		Knowledge Organiser	
Examination Day -	Fahrenheit 451 –	Dystopian Conventions	Key Vocabulary
		Propaganda-	Dystopia-
		Figurehead- A person or idea is _____ by the citizens of the society.	Dictator-
The Lottery –	1984-	Individuality is bad – everyone does the _____ thing.	Totalitarian -
		Individuality is bad – everyone does the _____ thing.	Indoctrinate -
		Citizens have a _____ of the outside world.	Subversion-
		_____ Information, independent thought, and freedom are restricted.	Utopia-
		_____ - careful watching of a person or place e.g. cameras, helicopter, voice recording	Oppression -
There Will Come Soft Rains -	The City Planners-	_____ - careful watching of a person or place e.g. cameras, helicopter, voice recording	Omnipresent -
		The natural world is _____ and _____.	Manipulation -
			Subject Terminology
			Narrative Hook-
		Imperative verbs –	
		Motif –	
		Abstract Noun -	

Types of Narrative Hooks

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.

Types Narrative Dystopian Hooks

- 8.
- 9.
- 10.
- 11.
- 12.
- 13.
- 14.

## Unit 9 Rhetoric & Revolution – Knowledge Organiser

Genre Features	
<b>Letter</b>	Addresses, date, Dear Sir/Madam = Yours faithfully, Dear Mr Frost = Yours sincerely. You can also end with 'Kind regards'
<b>Speech</b>	Directly address audience with use of personal pronouns throughout, may start 'ladies and gentlemen' or similar and end with 'thank you for listening'
<b>Magazine Article</b>	Needs a headline and may use some sub-headings. Likely to be 'lively' so make sure language choices are entertaining and descriptive. Think carefully about the intended audience.
<b>Newspaper Report</b>	Needs a headline and may use sub-headings.
<b>For all of the above, use:</b>	
<ul style="list-style-type: none"> <li>• A clear argument throughout that uses TIME to help structure it.</li> <li>• Detailed examples that add weight to your argument.</li> <li>• Techniques delicately so that you achieve a specific effect.</li> <li>• A range of sentence structures/vocabulary.</li> </ul>	
Form and Structure	
<b>Aristotle's Triangle of Rhetoric</b>	
<b>Ethos</b> - Credibility/trust	
<b>Pathos</b> - Emotion	
<b>Logos</b> - Logic	
Sound, Rhythm and Rhyme	
<b>Intonation</b> - How you say something. Often communicates emotion.	
Repetition and Emphasis	
<b>Emphasis</b> - which word you stress/make stronger, to lend it more importance/shape meaning - can be created through <b>repetition</b> (repeating a word)	

Abstracts and Key Vocabulary
<b>Register</b> - how formal a piece of writing is
<b>Advocates</b> - puts forward a particular opinion/viewpoint/belief
<b>Modal verbs</b> - a verb that indicates the behaviour of what is being described e.g. likelihood, ability, permission, request, capacity, suggestions, order, obligation, advice
<b>Anecdote</b> - a story of personal experience
<b>Pejorative language</b> - expressing disapproval, or suggesting that something is not good or is of no importance
<b>Hypophora</b> - a question in writing which is then answered by the writer
<b>Cyclical</b> - when an idea presented at the start is returned to at the end
<b>Reiterate</b> - to say something a number of times
<b>Elaborate</b> - to develop or present something in further detail
<b>Statistics</b> - the use of numbers to convince to point of view
<b>Expert voice</b> - the voice/opinion of someone who is an expert on the topic e.g. university lecturer; someone with first-hand experience; someone who references a recent survey; a charity linked to the topic being discussed

## Unit 9 Rhetoric & Revolution – Knowledge Organiser

Genre Features		Abstracts and Key Vocabulary	
_____	Addresses, date, Dear Sir/Madam = Yours faithfully, Dear Mr Frost = Yours sincerely. You can also end with 'Kind regards'	_____	how formal a piece of writing is
_____	Directly address audience with use of personal pronouns throughout, may start 'ladies and gentlemen' or similar and end with 'thank you for listening'	_____	puts forward a particular opinion/viewpoint/belief
_____	Needs a headline. Likely to be 'lively' so make sure language choices are entertaining and descriptive. Think carefully about the intended audience.	_____	a verb that indicates the behaviour of what is being described e.g. likelihood, ability, permission, request, capacity, suggestions, order, obligation, advice
_____	Needs a headline	_____	a story of personal experience
<b>For all of the above, use:</b>		_____	expressing disapproval, or suggesting that something is not good or is of no importance
<ul style="list-style-type: none"> <li>A clear _____ throughout that uses TIME to help structure it.</li> <li>Detailed examples that add weight to your argument.</li> <li>_____ delicately so that you achieve a specific effect.</li> <li>A range of sentence structures/vocabulary.</li> </ul>		_____	a question in writing which is then answered by the writer
<b>Form and Structure</b>		_____	when an idea presented at the start is returned to at the end
<b><u>Aristotle's Triangle of Rhetoric</u></b>		_____	to say something a number of times
Ethos -		_____	the use of numbers to convince to point of view
Pathos -		_____	- the voice/opinion of someone who is an expert on the topic e.g. university lecturer; someone with first-hand experience; someone who references a recent survey; a charity linked to the topic being discussed
Logos -			
<b><u>Sound, Rhythm and Rhyme</u></b>			
Intonation -			
<b><u>Repetition and Emphasis</u></b>			
Emphasis -			

## Abstracts and Key Vocabulary

**Rhetoric**  
**Rhetorical question** - asking a question with an expected response to build agreement  
**Syllogism** - a statement with a logical form ('if... then...')  
**Euphemism** - a nicer way of saying something thought of as bad to make it seem less bad.  
**Anecdote** - a personal story  
**Direct address** - Including the audience by using pronouns like 'you' and 'we'.

**Communism** - an extreme left society where, in theory, everyone is equal

**Ideology**- set of beliefs or principles that an organisation/political part is based

**Scapegoating**- act of blaming a person for something bad that has happened or someone else has done

**Rhetoric**- speech or writing intended to be effective and influencing

**Social class**- society's people organised into hierarchal categories

**Nationalism**- a great or too great love of your country/place

**Solidarity**- agreement between and support for members of a group, especially political group

## Content, Context and Literal Meaning

**Russian Revolution (1917)** - Lenin and the Communist party overthrew Tsar Nicholas II to establish the Soviet Union. When Lenin died, Stalin exiled Trotsky, and ruled as a Tyrant.

**Karl Marx (1818-1883)**- a philosopher who critiqued capitalism (system where businesses are privately owned so owners keep the profit) and promoted socialism (government/community controls resources to ensure fair sharing).

**Joseph Stalin (1878-1953)**- Soviet leader of USSR. Famous for transforming USSR into a major world power but his policies were often viewed as harsh and cruel.

**Leon Trotsky**- a Russian revolutionary leader who helped overthrow Stalin

## Unit 5 The Fragile Mind – Knowledge Organiser

### Plot

<b>Chapter 1</b>	The animals gather to listen to old Major. He gives them a vision of a life without man.
<b>Chapter 2</b>	The animals rebel and overthrow Jones. The commandments are written.
<b>Chapter 3</b>	The animals' first harvest is a success. The pigs keep the milk and apples to themselves.
<b>Chapter 4</b>	The Battle of the Cowshed: Jones attempts to reclaim the farm.
<b>Chapter 5</b>	Snowball and Napoleon debate the windmill. Napoleon uses dogs to chase Snowball from the farm. Napoleon makes himself leader.
<b>Chapter 6</b>	Work begins on the windmill. The pigs move into the farmhouse. Winds destroy the windmill.
<b>Chapter 7</b>	Work on the windmill starts again. Napoleon demands eggs from the hens. Napoleon slaughters animals at the show trials.
<b>Chapter 8</b>	Napoleon sells timber to Mr. Frederick, who pays with fake money, and attacks the farm. The animals suffer losses in the Battle of the Windmill. The windmill is destroyed.
<b>Chapter 9</b>	Boxer is sold to the knacker's yard.
<b>Chapter 10</b>	The pigs are leaders, and start walking on two legs/carrying whips. They have become like the humans they sought to overthrow at the start of the novel.

### Characters

<b>Old Major</b> - Wise old pig who incites revolution at the beginning, then dies. <b>Represents Karl Marx</b>
<b>Napoleon</b> - Takes over the farm after revolution and rules as tyrant. <b>Represents Stalin</b>
<b>Snowball</b> - Intelligent, devoted animalist (communist) - exiled/killed by Napoleon. <b>Represents Trotsky.</b>
<b>Squealer</b> - Voice of Napoleon, spreads misinformation, <b>represents propaganda.</b>
<b>Moses</b> - Old Raven who tempts animals to 'sugar candy mountain'. <b>Represents religion.</b>
<b>Boxer/Clover</b> - Strong, dependable, kind, but not very intelligent horses. Represent <b>Working class (proletariat)</b>
<b>Benjamin</b> - Cynical old donkey who always thinks everything will be bad, but does nothing about it. <b>Represents intellectual class</b>
<b>Farmer Jones</b> - Original owner of Animal farm. <b>Represents Stalin.</b>

## Unit 5 The Fragile Mind – Knowledge Organiser

Abstracts and Key Vocabulary	Plot	
<b>Rhetoric</b> Rhetorical question - _____	Chapter 1	
<b>Syllogism</b> – _____	Chapter 2	
<b>Euphemism</b> – _____	Chapter 3	
<b>Anecdote</b> - _____	Chapter 4	
<b>Direct address</b> - _____	Chapter 5	
<b>Communism</b> - _____	Chapter 6	
<b>Ideology</b> - _____	Chapter 7	
<b>Scapegoating</b> - _____	Chapter 8	
<b>Rhetoric</b> - _____	Chapter 9	
<b>Social class</b> - _____	Chapter 10	Characters
<b>Nationalism</b> - _____	<b>Old Major</b> - _____	
<b>Solidarity</b> - _____	<b>Napoleon</b> - _____	
<b>Content, Context and Literal Meaning</b>	<b>Snowball</b> - _____	
<b>Russian Revolution (1917)</b> - _____	<b>Squealer</b> - _____	
<b>Karl Marx (1818-1883)</b> - _____	<b>Moses</b> - _____	
	<b>Boxer/Clover</b> - _____	
<b>Joseph Stalin (1878-1953)</b> - _____	<b>Benjamin</b> - _____	
<b>Leon Trotsky</b> - _____	<b>Farmer Jones</b> - _____	

# Year 9 – Sparx Codes

*Topics in Italics are higher only*

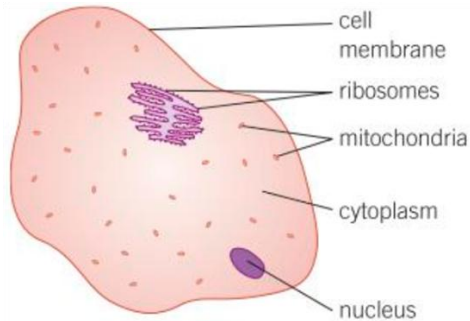
<b>Non Calculator Topic</b>	<b>Sparx Code</b>
Order of operations	M521
Estimating	M878
Error Intervals	M730
FDP	M958, M264 & M553
Percentage of amounts	M437
Calculating with Fractions	M835, M601, M931, M157, M197, M110 & M265
Ratio	M801, M267 & M525
Standard Form	M719 & M678
Linear Sequences	M991
Plotting straight lines	M932 & M205
Solving quadratics	U178 & U228
Index Laws	M120, M608 & M150
Solving equations	M634, M647, M401 & M554
Expanding single brackets	M237 & M792
Forming and solving and equations	M957
Angles in parallel lines	M606
Angles rules	M818, M163, M351 & M319
Reverse percentages	M528
<i>(H) Recurring Decimals to fractions</i>	<i>U689</i>
<i>(H) Surds</i>	<i>U338, U707, U281</i>
<i>(H) Simultaneous Equations</i>	<i>U760</i>

<b>Calculator Topic</b>	<b>Sparx Code</b>
Simplify expressions	M795 & 531
Prime Factor Decomposition	M108
HCF/LCM	M365
Averages and spread of data	M328, M934, M841 & M940
Direct Proportion	M478
Coordinates and midpoints	M311
Reflections	M290
Compound interest	U332
Speed, distance and time	U151
Quadratic graphs	U989
Area of a circle	M231
Pythagoras	U385
Trigonometry	U283 & U545
Volume of a cylinder	U915
Density, mass and volume	U910
Percentage Change	M533
Calculations with time	M892, M963 & M627
<i>(H) Factorising to solve quadratic equations of the form <math>ax^2 + bx + c = 0</math></i>	<i>U960</i>
<i>(H) Nth term of Quadratic Sequences</i>	<i>U206</i>
<i>(H) Area of a Sector</i>	<i>U373</i>
<i>(H) Bounds</i>	<i>U587</i>

# Science - Year 9 - Cells and their Organelles

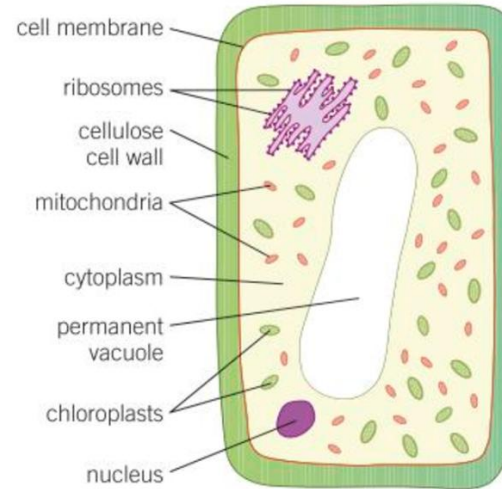
Plant and animal cells are **eukaryotic cells**. They have a cell membrane, cytoplasm and **genetic material enclosed in a nucleus**.

A typical **animal cell**



Animal cells are **10-30  $\mu\text{m}$**  long.

A typical **plant cell**:



Plant cells are **10-100  $\mu\text{m}$**  long.

**Organelles found in animal and plant cells:**

**Nucleus** - Contains the genetic material (DNA) and controls the cell's activities.

**Mitochondria** - where respiration happens; provides energy for the cell.

**Organelles found in plant cells:**

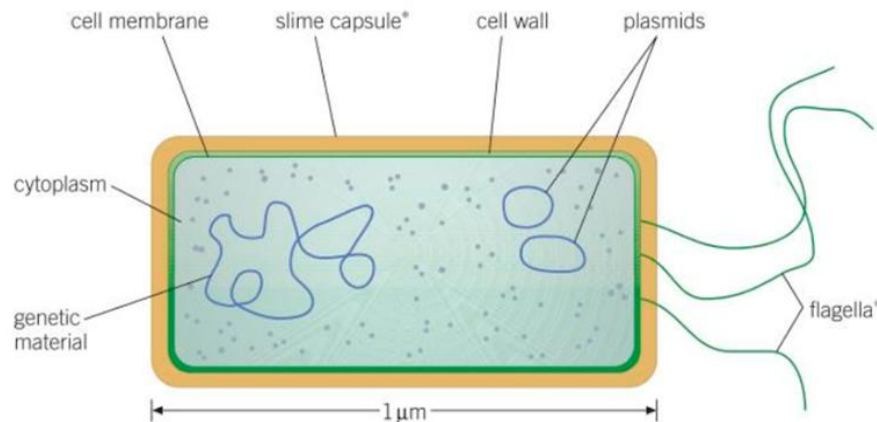
**Chloroplasts** - contain **chlorophyll** and absorb light for photosynthesis.

**Large vacuole** - full of cell sap; gives support to the plant cell.

**Cell wall** - gives plant cells support; made of **cellulose**.

Bacteria are **prokaryotic cells**. They **don't have a nucleus** - the DNA is found in a loop.

Prokaryotes may also contain small rings of DNA called **plasmids**.



\*not always present

Bacterial cells are **0.2 - 2.0  $\mu\text{m}$**  long.

This is 1 to 2 **orders of magnitude** smaller than eukaryotic cells (10 to 100 times smaller).

**Bacteria have cell walls** but they are not made of cellulose.

**ALL** cells contain:

**Cell membrane** - controls what goes in and out of the cell.

**Cytoplasm** - where the chemical reactions take place.

**Ribosomes** - where proteins are made.

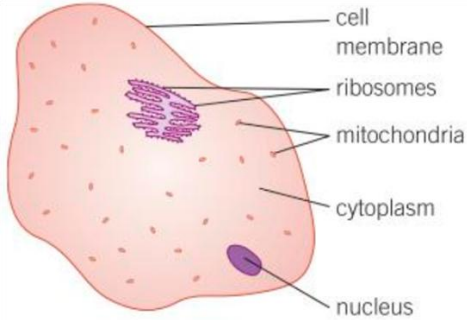
Some bacteria have **flagella**, which allow them to move around.

Some bacteria have a **slime capsule** which helps to protect them.

# Science - Year 9 - Cells and their Organelles

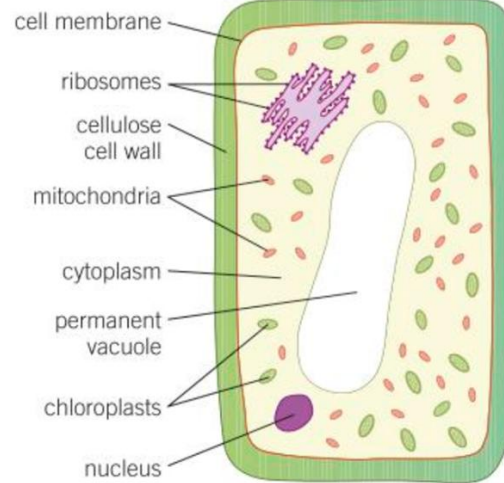
Plant and animal cells are ..... **cells**.  
They have a cell membrane, cytoplasm and **genetic material enclosed in a** .....

A typical **animal cell**



Animal cells are **10-30 µm** long.

A typical **plant cell**:



Plant cells are **10-100 µm** long.

**Organelles found in animal and plant cells:**

..... : Contains the genetic material (DNA) and controls the cell's activities.

**Mitochondria** : .....

**Organelles found in plant cells:**

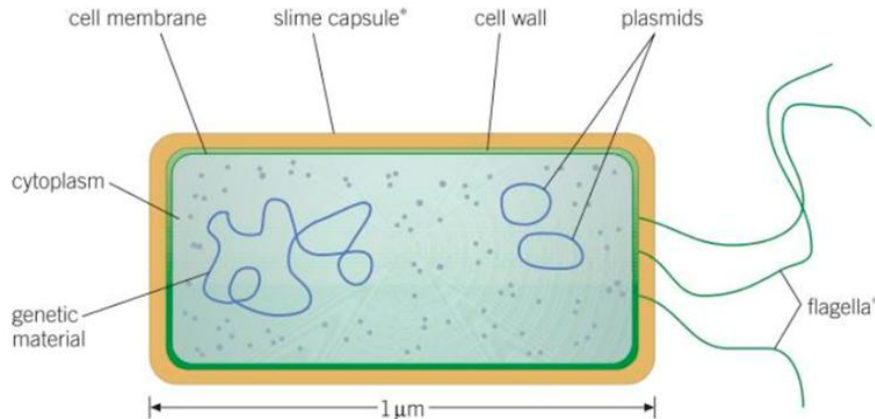
..... : contain **chlorophyll** and absorb light for photosynthesis.

**Large vacuole** : .....

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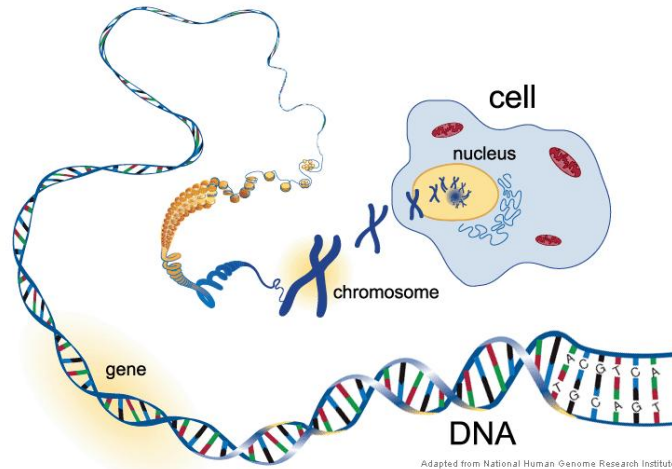
**Cytoplasm** : .....

..... : where proteins are made.

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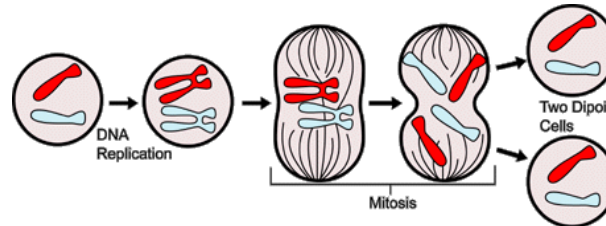
The **nucleus** of a cell contains **chromosomes** made of **DNA** molecules.



Each chromosome carries a large number of **genes**.  
In body cells the chromosomes are normally found in pairs. Humans have 23 pairs of chromosomes.

**Cells divide** in a series of stages called the **cell cycle**.

During the cell cycle the genetic material is doubled and then divided into two identical cells.



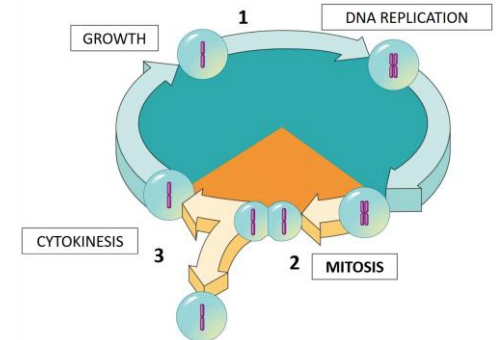
**1:** Before a cell can divide it needs to grow and **increase the number of ribosomes and mitochondria**.

The **DNA replicates** to form **two copies of each chromosome**. The cell then grows more and the DNA is checked for errors before mitosis.

**2:** In **mitosis** one set of chromosomes is pulled to each end of the cell and **the nucleus divides**.

**3:** Finally the cytoplasm and cell membranes divide **to form two identical cells** (cytokinesis).

Cell division by mitosis is important in the growth and development of multicellular organisms.



A **stem cell** is an **undifferentiated cell** of an organism which is capable of giving rise to many more cells of the same type, and from which certain other cells can arise from differentiation.

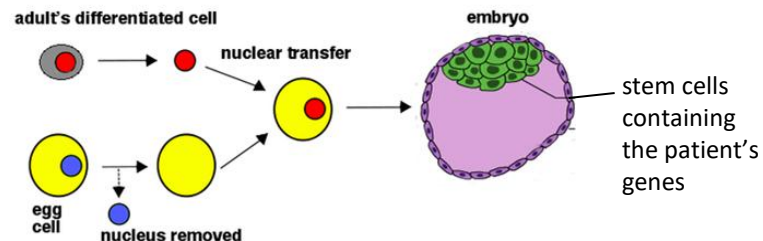
Stem cells from **human embryos** can be **cloned** and made to differentiate into most different types of human cells.

Stem cells from **adult bone marrow** can form many types of cells including blood cells.

**Meristem tissue** in plants can differentiate into any type of plant cell, throughout the life of the plant. Stem cells from meristems in plants can be used to produce **clones** of plants quickly and economically.

- Rare species can be cloned to protect from extinction.
- Crop plants with special features such as disease resistance can be cloned to produce large numbers of identical plants for farmers.

In **therapeutic cloning** an embryo is produced with the same genes as the patient.



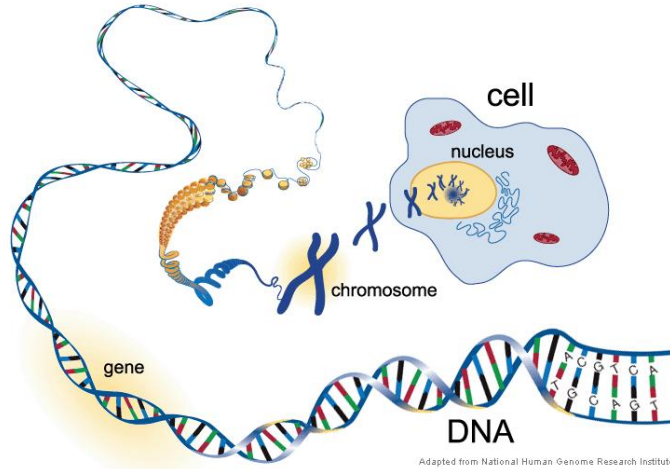
Stem cells from the embryo are not rejected by the patient's body so they may be used for medical treatment.

The use of stem cells has potential risks **such as transfer of viral infection**, and some people have **ethical or religious objections**.

Treatment with stem cells may be able to help conditions such as diabetes and paralysis.

# Science - Year 9 - The Cell Cycle, Mitosis & Stem Cells

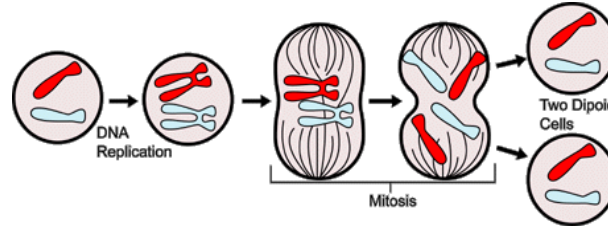
The **nucleus** of a cell contains .....  
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In body cells the chromosomes are normally found in pairs. Humans have 23 pairs of chromosomes.

**Cells divide** in a series of stages called the .....

During the cell cycle the genetic material is doubled and then divided into two identical cells.

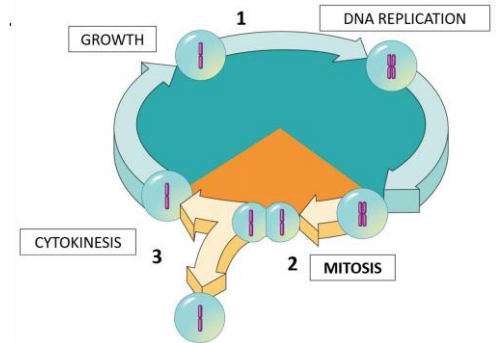


**1:** Before a cell can divide it needs to grow and **increase the number of ribosomes and** .....

The **DNA** .....to form **two copies of each chromosome**. The cell then grows more and the DNA is checked for errors before mitosis.

**2:** In .....one set of chromosomes is pulled to each end of the cell and **the nucleus divides**.

**3:** Finally the cytoplasm and cell membranes **divide to form two**..... **cells** (cytokinesis).  
Cell division by mitosis is important in the growth and development of multicellular organisms.



A .....is an **undifferentiated cell** of an organism which is capable of giving rise to many more cells of the same type, and from which certain other cells can arise from differentiation.

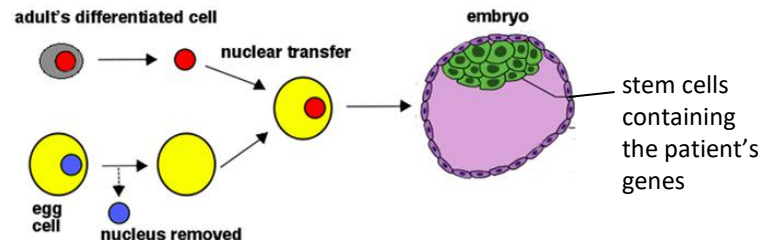
Stem cells from **human** ..... can be **cloned** and made to differentiate into most different types of human cells.

Stem cells from **adult bone marrow** can form many types of cells including blood cells.

..... **tissue** in plants can differentiate into any type of plant cell, throughout the life of the plant. Stem cells from meristems in plants can be used to produce ..... of plants quickly and economically.

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Stem cells from the embryo are not .....by the patient's body so they may be used for medical treatment.

The use of stem cells has potential risks **such as transfer of viral infection**, and some people have **ethical or religious objections**.

Treatment with stem cells may be able to help conditions such as ..... and .....

# Science - Year 9 - Specialised Cells

As an organism develops, cells **differentiate** to form different types of cells.

As a cell differentiates it acquires different sub-cellular structures to enable it to carry out a certain function.

It has become a **specialised cell**.

Most types of animal cell differentiate at an early stage.

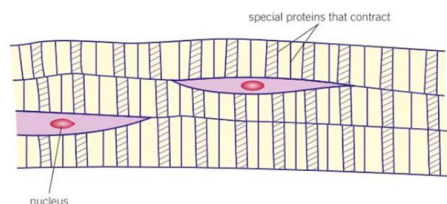
**In mature animals, cell division is mainly restricted to repair and replacement.**

Specialised cells may contain **large numbers of mitochondria** to provide the energy needed by the cell.

eg

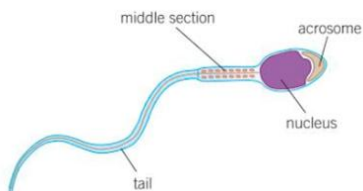
## muscle cells:

energy transfer needed for contracting



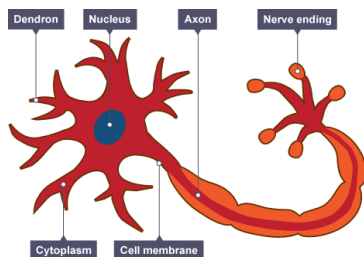
## sperm cells:

energy transfer needed for swimming towards the egg



## neurone cells:

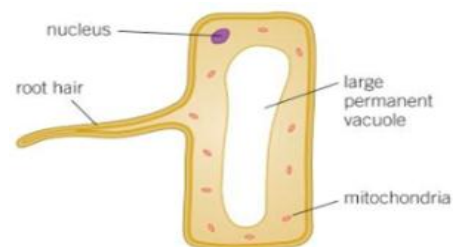
energy transfer needed to transmit electrical impulses



Plant cells also differentiate to form specialised cells.

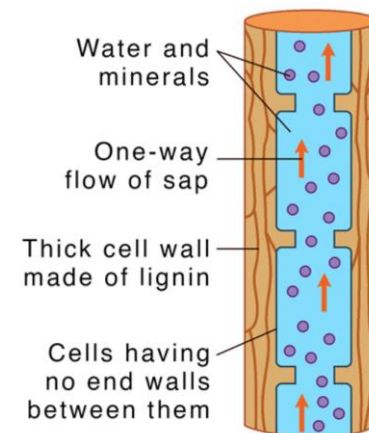
**Many types of plant cells retain the ability to differentiate throughout life.**

Specialised cells may have a **large surface area** so that they can **exchange materials** through diffusion, osmosis or active transport more easily. eg a **root hair cell**:

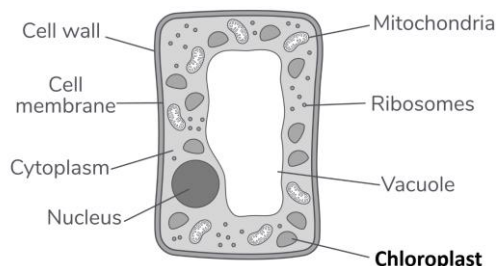


Root hair cells also have many mitochondria, in order to transfer the energy needed for active transport of minerals from the soil.

## xylem cells:

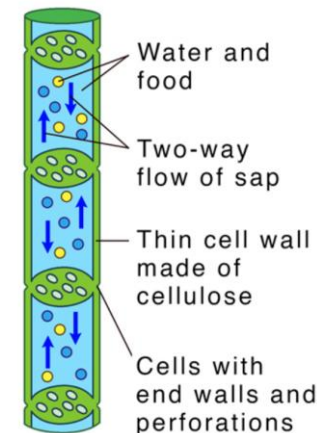


## palisade cells:



Contain many **chloroplasts** so they can carry out photosynthesis. **Chlorophyll** is a green pigment found in the chloroplasts. It absorbs light to provide the energy for photosynthesis.

## phloem cells:



# Science - Year 9 - Specialised Cells

As an organism develops, cells ..... to form different types of cells.

As a cell differentiates it acquires different sub-cellular structures to enable it to carry out a certain function.

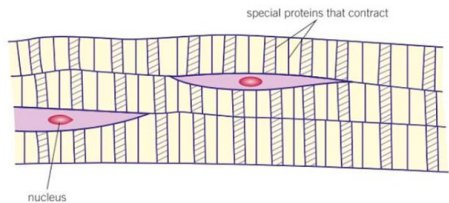
It has become a ..... **cell**.

Most types of animal cell differentiate at an early stage.

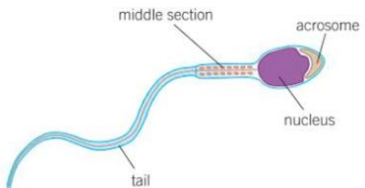
**In mature animals, cell division is mainly restricted to ..... and replacement.**

Specialised cells may contain **large numbers of mitochondria** to provide the ..... needed by the cell. eg

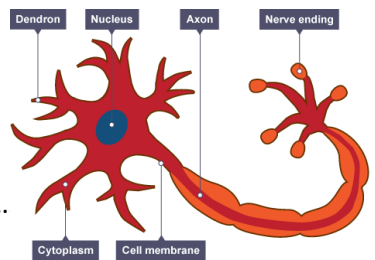
**muscle cells:**  
energy transfer needed for .....



**sperm cells:**  
energy transfer needed for ..... towards the egg



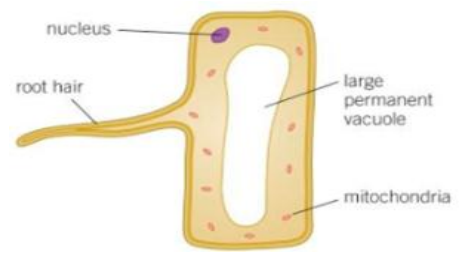
**neurone cells:**  
energy transfer needed to transmit .....



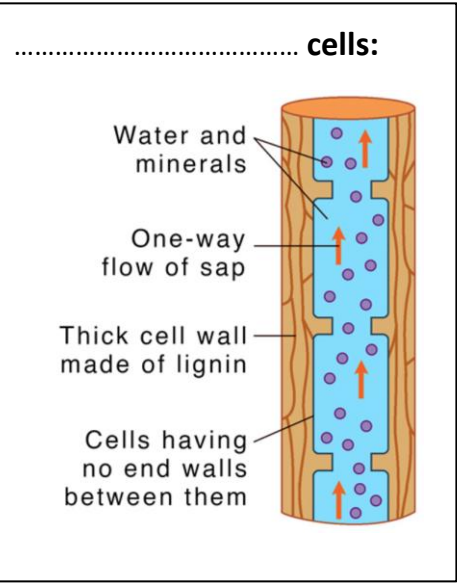
Plant cells also differentiate to form specialised cells.

**Many types of plant cells retain the ability to differentiate throughout life.**

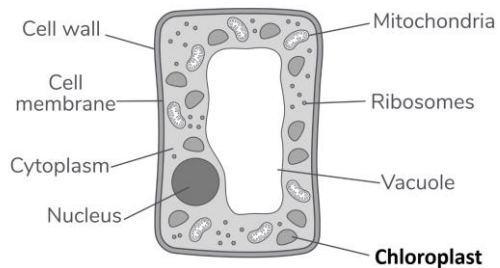
Specialised cells may have a **large** ..... so that they can **exchange materials** through diffusion, osmosis or active transport more easily. eg a **root hair cell**:



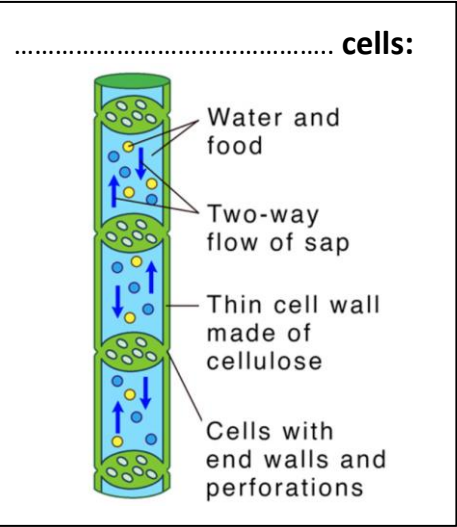
Root hair cells also have many ....., in order to transfer the energy needed for active transport of minerals from the soil.



..... **cells:**

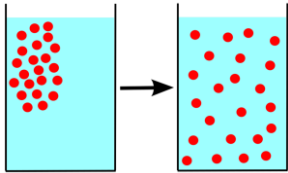


Contain many ..... so they can carry out photosynthesis. .... is a green pigment found in the chloroplasts. It absorbs light to provide the energy for photosynthesis.



# Science - Year 9 - Transport in Cells

**Diffusion** is the spreading out of the particles of any substance in solution, or particles of a gas, resulting in a net movement **from an area of higher concentration to an area of lower concentration**.



Factors which affect the rate of diffusion are:

- the difference in concentrations (**concentration gradient**)
- the temperature
- the surface area of the membrane.

Substances may move into and out of cells across the **cell membranes** via diffusion.

Some of the substances transported in and out of cells by diffusion are oxygen and carbon dioxide in gas exchange, and of the waste product urea from cells into the blood plasma for excretion in the kidney.

A **single-celled organism** has a relatively **large surface area to volume ratio**.

This allows sufficient transport of molecules into and out of the cell to meet the needs of the organism.

**Active transport** moves substances from a more dilute solution to a more concentrated solution (**against a concentration gradient**).

This requires **energy** from respiration.

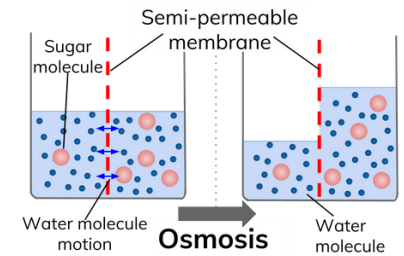
Active transport allows **sugar molecules** to be absorbed from lower concentrations in the gut into the blood which has a higher sugar concentration. Sugar molecules are used for cell respiration.

Active transport allows **mineral ions** to be absorbed into plant root hairs from very dilute solutions in the soil. Plants require ions for healthy growth.

In **multicellular organisms**, surfaces and organ systems are specialised for exchanging materials.

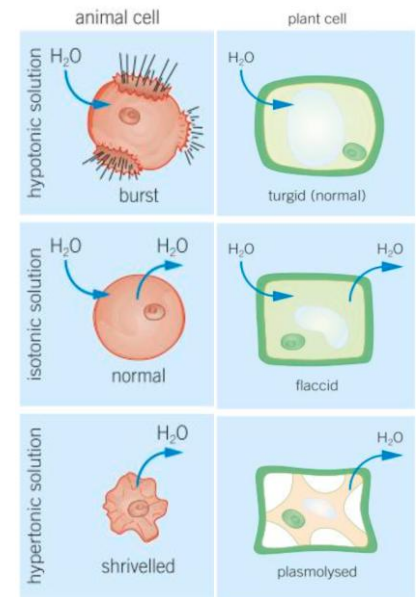
This is to allow sufficient molecules to be transported into and out of cells for the organism's needs.

**Osmosis** is the diffusion of water from a **dilute solution** to a **concentrated solution** through a **partially permeable membrane**.



Water may move across cell membranes via osmosis.

**Hypotonic** solutions are at a **lower concentration** than inside the cell. This causes water to move into cells by osmosis.



**Isotonic** solutions are at the **same concentration** as inside the cell. There is no overall movement of water in or out of cells in isotonic solutions.

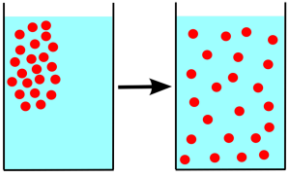
**Hypertonic** solutions are at a **higher concentration** than inside the cell. This causes water to move out of cells by osmosis.

The effectiveness of an **exchange surface** is increased by:

- having a large surface area
- a membrane that is thin, to provide a short diffusion pathway
- (in animals) having an efficient blood supply
- (in animals, for gaseous exchange) being ventilated.

# Science - Year 9 - Transport in Cells

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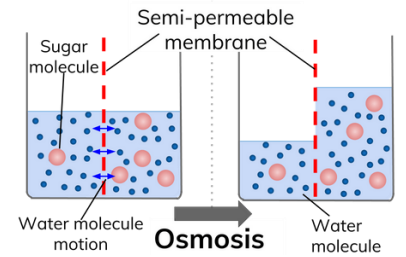
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In **multicellular organisms**, surfaces and organ systems are specialised for ..... materials.

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**Osmosis** is the diffusion of ..... from a ..... **solution** to a ..... **solution** through a ..... **membrane**.

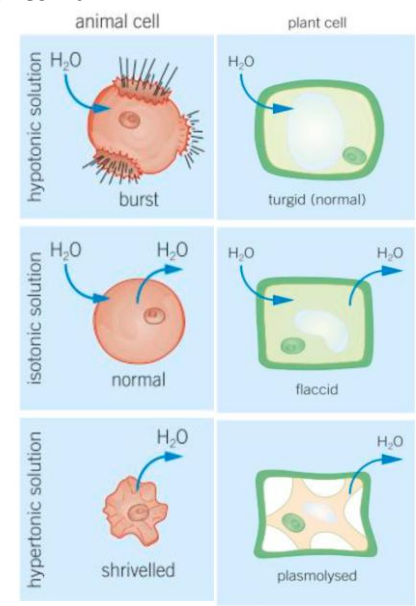


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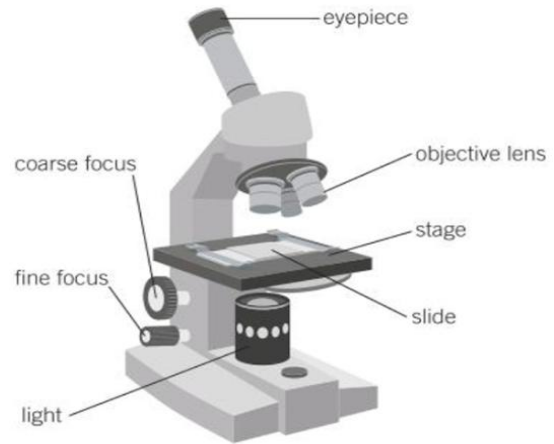
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# Science - Year 9 - Magnification and Required Practicals

**Microscopy** allows us to look at objects that are too small to be seen otherwise.

The parts of a **light microscope**:



**Magnification** is how much larger the image appears to be than the real object.

**Magnification =  $\frac{\text{size of image}}{\text{size of real object}}$**

eg Magnification =  $\frac{2000 \mu\text{m}}{20 \mu\text{m}} = 100$

so the magnification is x100

Maximum magnification possible:

light microscope = x2 000

electron microscope = x1 000 000

**Resolution** is the ability to distinguish between two points.

The **resolving power** of a microscope tells us how much detail can be seen.

Typical resolving powers:

light microscope = 200 nm

electron microscope = 10 nm

An **electron microscope** has much higher magnification and resolving power than a light microscope.

This means that it can be used to study cells in much finer detail.

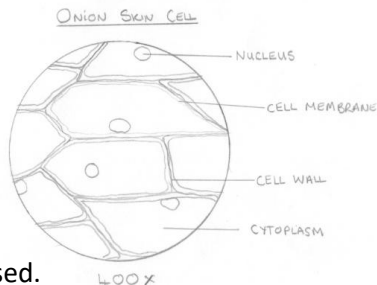
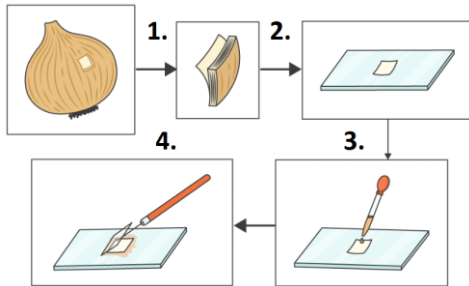
Electron microscopy has enabled biologists to see and understand many more **sub-cellular structures** (organelles).

**RP Microscopy:** use a light microscope to observe, draw and label a selection of plant and animal cells. A magnification scale must be included.

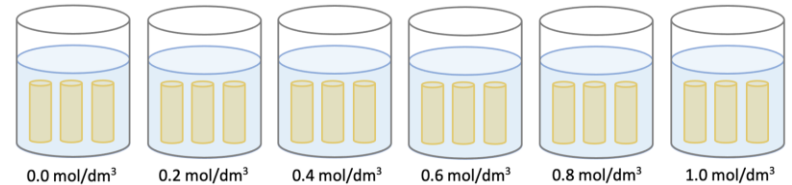
1. Cut a small, thin slice of the specimen.
2. Place it flat onto a microscope slide.
3. Add a drop of indicator solution.
4. Place a coverslip over the sample.

Starting with the lowest power objective lens, use a microscope to view the cells.

Draw the cells, including the magnification used.



**RP Osmosis:** investigate the effect of a range of concentrations of salt or sugar solutions on the mass of plant tissue.



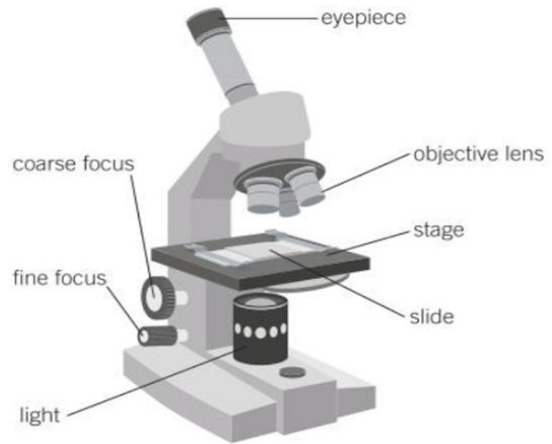
Identically sized and shapes pieces of a vegetable, eg potato, are placed in solutions of different concentrations. The pieces of potato are all weighed before and after to find their masses, so that a change in mass can be calculated.

- pieces of potato in solutions more dilute than the concentration inside the cells will gain mass when water moves into the cells through osmosis
- pieces of potato in solutions more concentrated than the concentration inside the cells will lose mass when water moves out of the cells through osmosis

# Science - Year 9 - Magnification and Required Practicals

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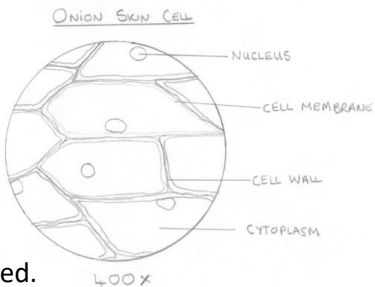
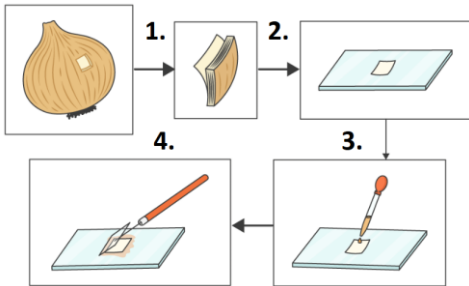
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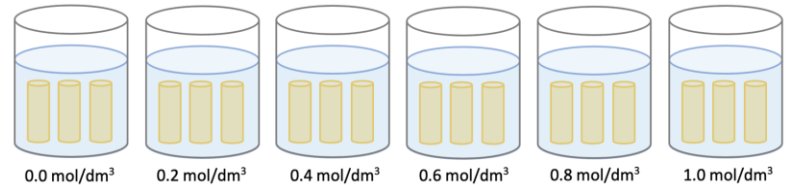
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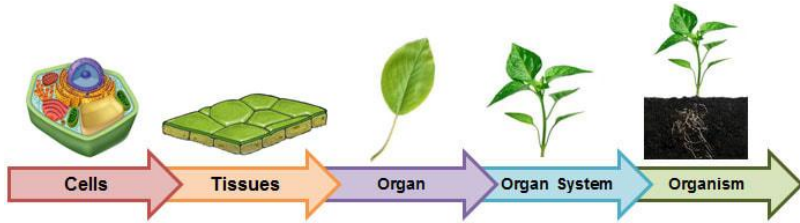


Identically sized and shapes pieces of a vegetable, eg potato, are placed in solutions of different ..... The pieces of potato are all weighed before and after to find their masses, so that a ..... in mass can be calculated.

- pieces of potato in solutions more dilute than the concentration inside the cells will ..... mass when water moves into the cells through osmosis
- pieces of potato in solutions more concentrated than the concentration inside the cells will ..... mass when water moves out of the cells through osmosis

# Science - Year 9 - Botany: Plant Organs and Transpiration

Plants are **multicellular organisms** with **organs** and transport systems.



**Flower:**  
reproductive organs.

**Stem:**  
transport and physical support

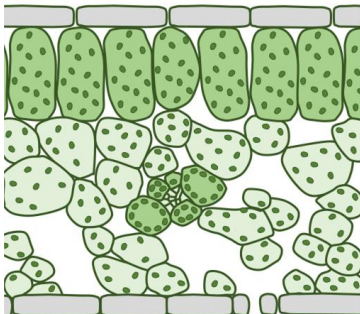


**Leaf:**  
photosynthesis and gas exchange

**Roots:**  
absorbs water and minerals

Structure of the leaf: cross-section

**Upper epidermis:**  
has a waxy cuticle (layer) to prevent water loss; thin and transparent to let light through



**Palisade layer:**  
where most photosynthesis occurs

**Spongy mesophyll:**  
allows carbon dioxide and oxygen to freely diffuse

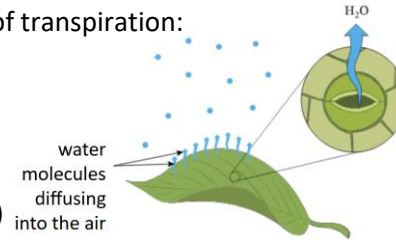
**Lower epidermis:**  
contains stomata

**Transpiration** is the loss of water from the leaves of a plant.

Water **evaporates** from the leaf, leaving through **stomata**.

Factors that increase the rate of transpiration:

- higher temperature
- higher windspeed
- lower humidity (water levels in the air)
- faster photosynthesis

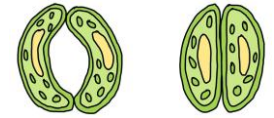


Stomata can **close to prevent water loss**.

**Guard cells** open and close the stomata.

**Stomata** are tiny holes on the underside of leaves.

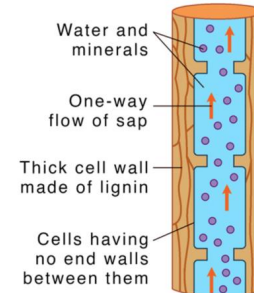
Stoma = 1 stomata



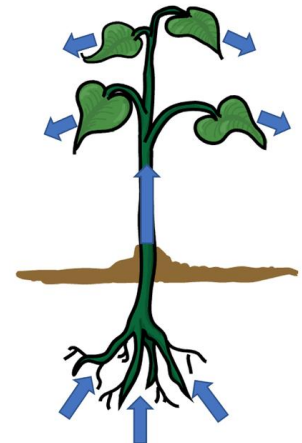
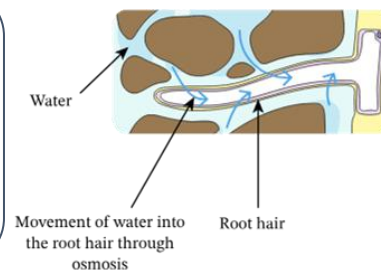
When open, **carbon dioxide** and oxygen can move in and out of the cell.

The **transpiration stream** is the continuous, upward movement of **water and dissolved minerals** from the **roots**, through the **xylem vessels**, to the **leaves**, driven by the evaporation of water (transpiration) from the leaf surface.

**Xylem vessels:**  
made of many dead xylem cells linked together; water is pulled upwards by transpiration occurring from the leaves

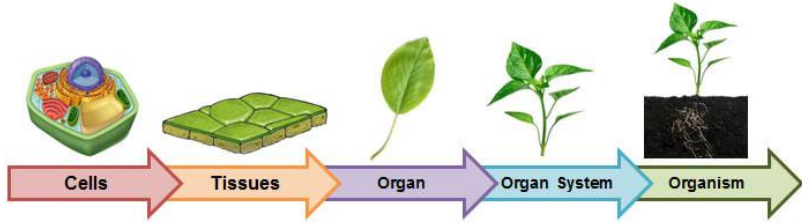


**Root hair cells:**  
have a large surface area; water moves into the cells by osmosis; some mineral ions diffuse into the cells from the soil



# Science - Year 9 - Botany: Plant Organs and Transpiration

Plant are **multicellular organisms** with **organs** and transport systems.



**Flower:**  
..... organs.

**Leaf:**  
.....  
and gas exchange

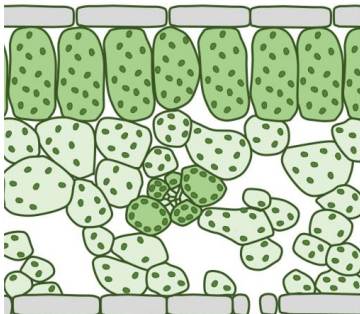
**Stem:**  
..... and  
physical support



**Roots:**  
absorbs water and  
.....

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thin and ..... to let light through



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where most photosynthesis occurs

**Spongy mesophyll:**  
allows .....  
and oxygen to freely diffuse

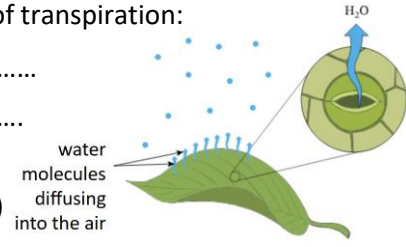
**Lower epidermis:**  
contains .....

..... is the loss of water from the leaves of a plant.

Water ..... from the leaf, leaving through **stomata**.

Factors that increase the rate of transpiration:

- higher .....
- higher .....
- ..... humidity  
(water levels in the air)
- faster photosynthesis

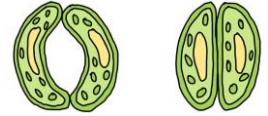


Stomata can **close to prevent** ..... **loss**.

..... open and close the stomata.

..... are  
tiny holes on the  
underside of leaves.

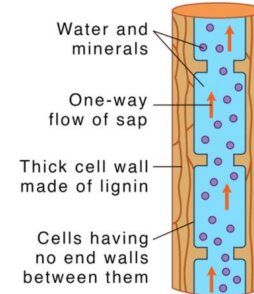
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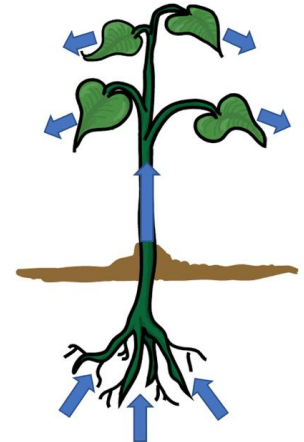
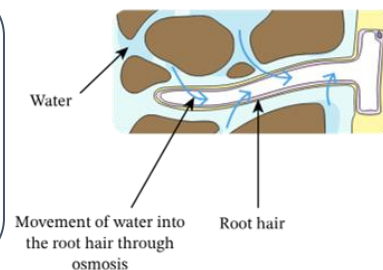
When open, .....  
..... and oxygen  
can move in and out  
of the cell.

The ..... is the continuous, upward movement of **water and dissolved minerals** from the ....., through the **xylem vessels**, to the **leaves**, driven by the evaporation of water (transpiration) from the leaf surface.

..... **vessels:**  
made of many dead xylem  
cells linked together;  
water is pulled upwards by  
transpiration occurring  
from the .....



**Root hair cells:**  
have a ..... surface area;  
water moves into the cells  
by .....;  
some mineral ions .....  
into the cells from the soil



# Science - Year 9 - Botany: Photosynthesis

**Photosynthesis** is how plants make food. The chemical equation for photosynthesis is:

**carbon dioxide**  
6 CO<sub>2</sub>

+

**water**  
6 H<sub>2</sub>O

→

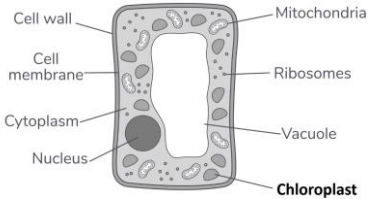
**glucose**  
C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>

+

**oxygen**  
6 O<sub>2</sub>

Once made, **glucose** (and other organic molecules) can be moved around the plant, dissolved in water, by **translocation** through the **phloem** tissues.

Photosynthesis happens in the **chloroplasts** of plant cells, particularly in the **palisade cells** in leaves.



**Chlorophyll** is a green pigment found in the chloroplasts. It absorbs light to provide the energy for photosynthesis.

## Limiting Factors in Photosynthesis

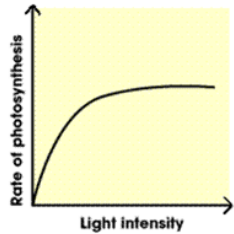
The **rate of photosynthesis** is affected by:

**amount of carbon dioxide**

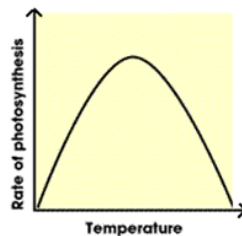
**amount of chlorophyll**

**light intensity**

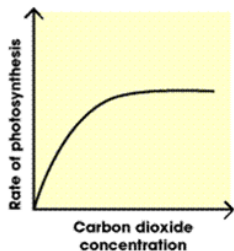
**temperature**



When the rate graph line for **light intensity** plateaus, it shows that another factor is now limiting how quickly photosynthesis can occur.



The rate graph for the effect of **temperature** shows there is an **optimum temperature** for photosynthesis, above which the rate of photosynthesis rapidly decreases to zero because the **enzymes** needed for photosynthesis **denature** (change shape).

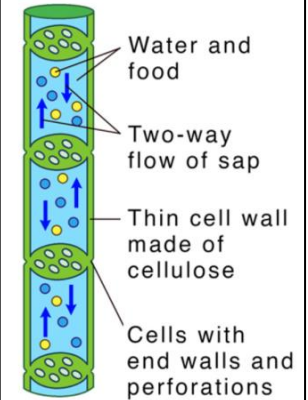


Some farmers grow their crops in greenhouses so that they can control the temperature of the plants and the amount of light and carbon dioxide they receive.

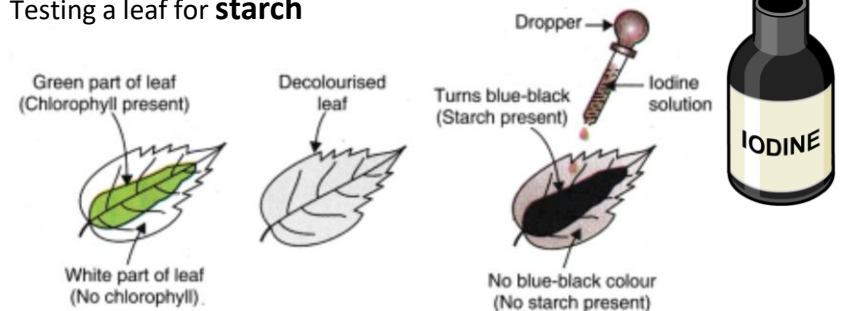
Glucose made by photosynthesis can be:

- used by the plant for **respiration** (all living cells must respire, all of the time!)
- **converted to insoluble starch** for storage (insoluble = will not dissolve)
- used to produce **fats and oils**
- used to make **amino acids**
- used to make **cellulose to strengthen cell walls**

## Phloem vessels:



## Testing a leaf for starch



Boil the leaf in ethanol (alcohol) to remove the green chlorophyll pigment.

Add a few drops of **iodine** to the leaf. Iodine is orange-brown and turns blue-black if there is starch present.

# Science - Year 9 - Botany: Photosynthesis

..... is how plants make food. The chemical equation for photosynthesis is:

**carbon dioxide**

6 .....

+

6 H<sub>2</sub>O

→

C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>

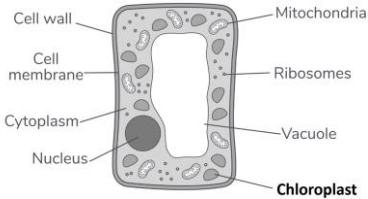
+

**oxygen**

6 .....

Once made, **glucose** (and other organic molecules) can be moved around the plant, dissolved in water, by ..... through the **phloem** tissues.

Photosynthesis happens in the ..... of plant cells, particularly in the **palisade cells** in leaves.



..... is a green pigment found in the chloroplasts. It absorbs light to provide the energy for photosynthesis.

## Limiting Factors in Photosynthesis

The **rate of photosynthesis** is affected by:

**amount of**

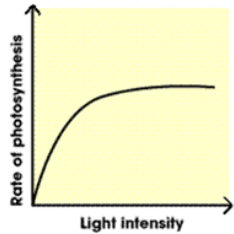
.....

**amount of chlorophyll**

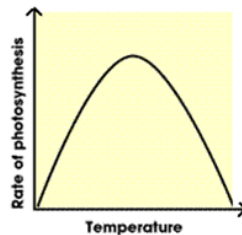
.....

..... **intensity**

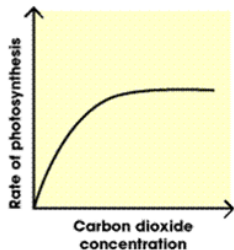
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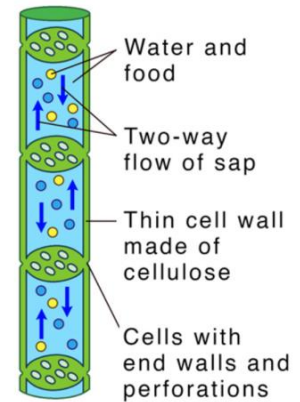


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- **converted to insoluble** ..... for storage (insoluble = will not dissolve)
- used to produce **fats and** .....
- used to make ..... **acids**
- used to make ..... **to strengthen cell walls**

..... **vessels:**



## Testing a leaf for starch

Green part of leaf (Chlorophyll present)



White part of leaf (No chlorophyll)

Decolourised leaf



Turns blue-black (Starch present)



No blue-black colour (No starch present)

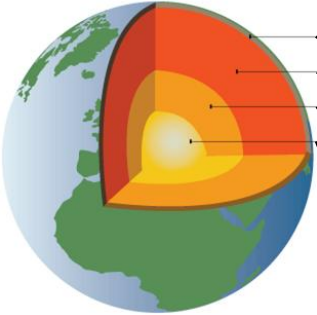


Boil the leaf in ethanol (alcohol) to remove the green ..... pigment.

Add a few drops of ..... to the leaf. Iodine is orange-brown and turns .....-..... if there is starch present.

# Science - Year 9 - Earth Science

## The Structure of the Earth



### Crust:

6-70 km thick, very rocky

### Mantle:

has the properties of a solid, but can flow very slowly

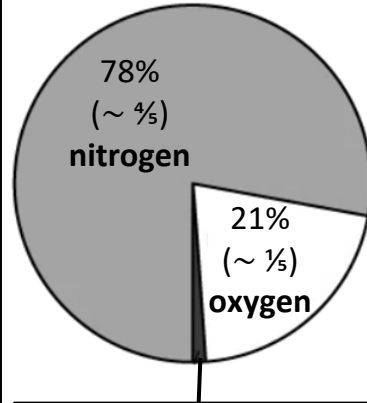
### Outer core:

made from **liquid** nickel and iron

### Inner core:

made from **solid** nickel and iron

## The Earth's Atmosphere



1% other gases - mostly

**argon**

0.04 % **carbon dioxide**

a variable amount of

**water vapour**

**The Greenhouse Effect** is caused by gases in the Earth's atmosphere trapping heat. The **greenhouse gases** are:

**carbon dioxide**

**CO<sub>2</sub>**

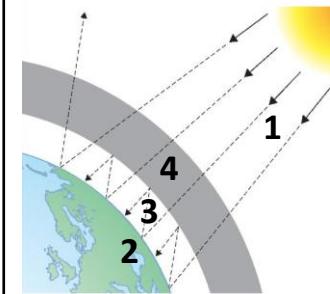
**methane**

**CH<sub>4</sub>**

**water vapour**

**H<sub>2</sub>O**

Without these gases in the atmosphere, the temperature on Earth would be too cold to for any plants or animals to live on it.



- 1: Light given out by the sun, passes through the atmosphere.
- 2: The Earth absorbs some of the light and warms up.
- 3: The Earth gives out heat as infrared waves.
- 4: Greenhouse gases trap the heat around the Earth.

**Finite** (non-renewable) **resources** will run out, eg coal and oil.

**Renewable resources** can be replenished as they are use, eg wood, cotton and wool.

Humans use resources for:

energy and fuels  
for **warmth**

fuels for  
**transport**

building materials  
for **shelter**

**food** through  
farming

materials for  
**clothing**

Scientific evidence shows that **Global Climate Change** (Global Warming) is occurring because of increased amounts of greenhouse gases in the atmosphere.

The level of carbon dioxide in our atmosphere has increased due to human activities, such as **burning fossil fuels** and **deforestation** (chopping down trees).

Some effects of Global Climate Change are:

**more extreme weather**  
eg heat waves and storms

**ice melting**

**rising sea levels and increased flooding**

**more bush fires / forest fires**

**Sustainable Development** is development that meets the needs of current generations without compromising the ability of future generations to meet their own needs.

To use our limited resources sustainably, we should:

- **Reduce:** use less of the resource
- **Reuse:** use items as many times as possible
- **Recycle:** use waste items to make new products



Burning fossil fuels can lead to other **polluting gases** being released, including:

**sulfur dioxide SO<sub>2</sub>**

and

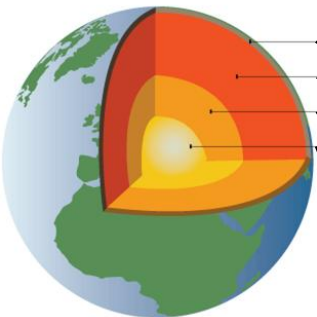
**nitrogen oxides NO<sub>x</sub>**

These gases react with water and oxygen in the atmosphere to make **acid rain**.

Acid rain can damage trees, kill animals that live in water and damage buildings and vehicles.

# Science - Year 9 - Earth Science

## The Structure of the Earth



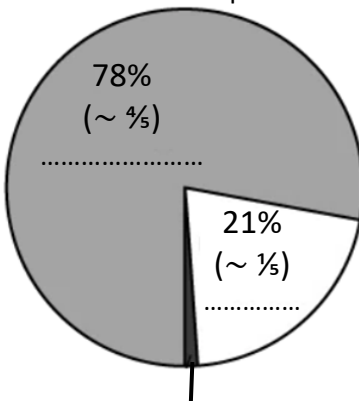
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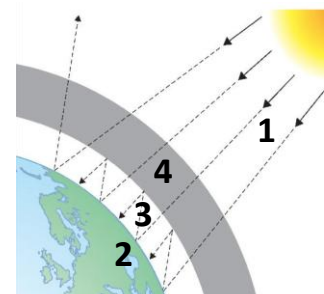
**carbon dioxide**

.....

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**CH<sub>4</sub>**

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building materials  
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**food** through  
farming

materials for  
**clothing**

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..... **SO<sub>2</sub>**

and

..... **oxides NO<sub>x</sub>**

These gases react with water and oxygen in the atmosphere to make .....  
Acid rain can damage trees, kill animals that live in ..... and damage ..... and vehicles.

# Science - Year 9 - Generating Electricity

There are two types of voltage source: **ac** and **dc**.

DC or dc stands for **direct current**.

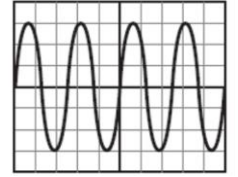
Direct current flows in one direction around a circuit.  
Sources of DC voltage are **cells and batteries**.



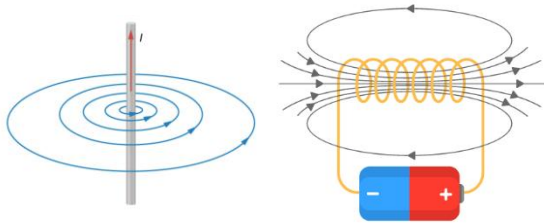
AC or ac stands for **alternating current**.

Alternating current rapidly changes its direction many times every second!

**Mains electricity** is a source of AC voltage.



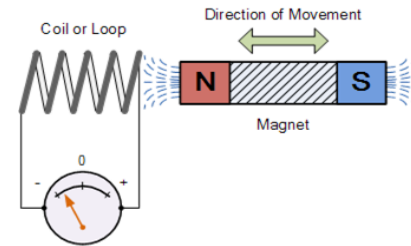
A current flowing through a wire produces a magnetic field around the wire.



**Electromagnetic induction** is using magnetic fields to produce a voltage (potential difference) in a conductor or a current in a complete circuit.

Moving a magnetic field through a coil of wire **induces a voltage** across the wire.

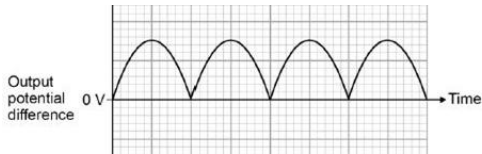
If the conductor is part of a **complete circuit**, a **current** will flow in the wire.



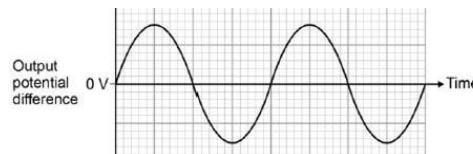
to increase the voltage:

- use a stronger magnet
- move the magnet faster
- increase the number of turns in the coil

Most **generators** produce electricity by moving a coil of wire inside a magnetic field.  
**Dynamos** produce dc voltages.



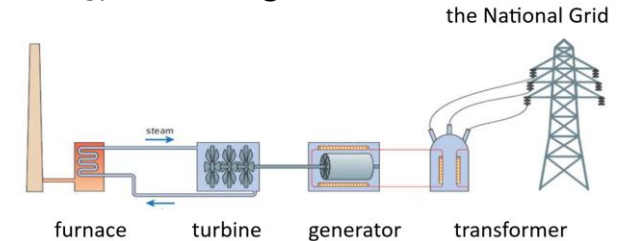
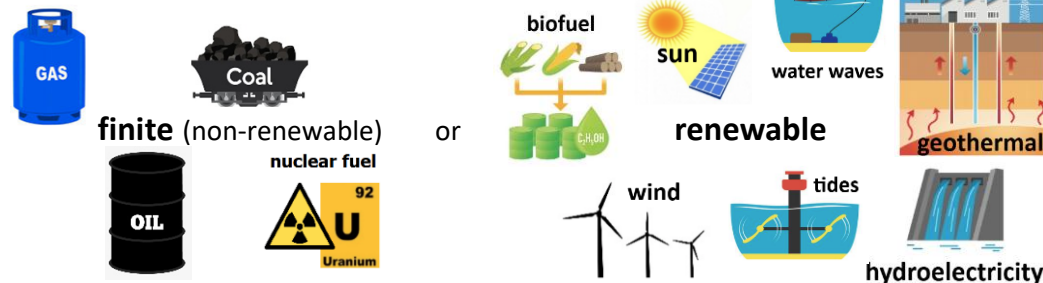
**Alternators** produce ac voltages.



Power stations that burn fuels in a **furnace** to generate electricity, transfer energy:

- from the **chemical energy store of the fuel**
- to the thermal and kinetic energy stores of **steam**
- to the kinetic energy store of the **turbine**
- to the kinetic energy store of the **generator**

Energy resources for generating electricity can be:



The **transformer** increases the size of the ac voltage generated so it can be sent to our homes through the **National Grid**.



# Year 9 Geography

## Global Resources

### Why are Natural Resources important?

#### Economically

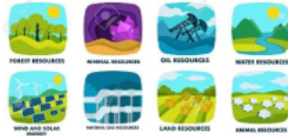


Global resources can be traded to make a country who has them develop economically  
e.g. selling oil to other countries

#### Socially



People within the country will have access to resources and therefore a better quality of life  
e.g. access to clean fresh water improves life expectancy



- HIC**- High Income Country
- LIC**- Low Income Country
- NEE**- Newly Emerging Economies
- Supply** – where things are found
- Consume** – to use
- Resource security**- people have enough of a resource e.g. water
- Resource insecurity**- people don't have enough of a resource to survive

### What is a global resource?

**Resource** – a stock or supply of something

**Natural Resource** – a stock or supply of something that occurs naturally e.g. wood

### Examples of natural resources

#### Energy

Oil/coal/gas/wind/soil/nuclear

#### Water

#### Soil

#### Minerals

#### Forest

### Factors that affect energy supply

#### Cost to exploit

Some energy sources such as oil are hard to extract

#### Physical factors

Geology of an area determines the location and availability of fossil fuels. Water flow changes availability of hydroelectricity. Geothermal energy is affected by tectonic plate location

#### Political Factors

Some countries politically do not agree with each other and therefore trade of resources is not possible

### Factors that affect energy consumption

#### Economic development

HICs use far more energy than LICs e.g. more cars/electricity use/heating

#### Population increase

The larger the population the more energy is used e.g. China and India both have population of over 1 billion

### CASE STUDY

#### Oil Shales – Canada, North America

Oil can be extracted from tars and fields

#### Key Facts

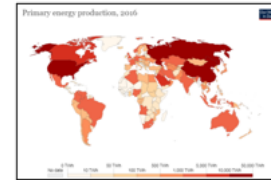
19% of US oil supply is from Canada  
 250,000 tonnes produced daily  
 200,000 tonnes of water used daily

#### Impacts

Oil leaks into the Athabasca River  
 Mutations, tumours and deformed fish species  
 Carbon dioxide footprint greater than New Zealand and Kenya combined

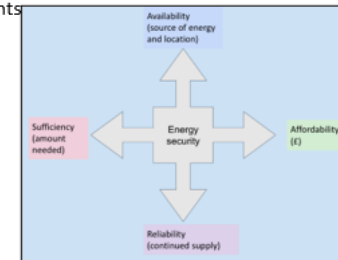
### Energy Security-

The ability of a nation to secure sufficient, affordable and consistent energy supplies for its domestic, industrial, transport and military requirements



**Renewable** = A natural resource such as tidal or solar energy that will be remade by the environment (infinite).

**Non-renewable** = Sources of energy such as coal, oil or natural gas- that cannot be 'remade', so they can run out (finite).



### Where can fresh water be found

- Glaciers
- Lakes
- Rivers
- Groundwater

3% of water on Earth is fresh water



### Reasons fresh water is important

- Drinking water
- Watering crops
- Irrigation
- Cooling down factories
- Hydroelectric Power

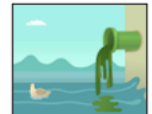


### Factors that affect water supply – natural

**Climate** – arid climate does not have as much fresh water

**River systems** – some countries have more rivers than others

**Geology** – permeable rocks can store water as aquifers



### Factors that affect water supply – human

**Pollution** – pollutants from industrialisation

**Over abstraction** – taking too much water out of the ground

# Year 9 Geography Global Resources



**HIC-**  
**LIC-**  
**NEE-**  
**Supply -**  
**Consume -**

\_\_\_\_\_ - people have enough of a resource e.g. water  
 \_\_\_\_\_ - people don't have enough of a resource to survive

## Why are Natural Resources important?

### Economically



Global resources can be traded to make a country who has them develop economically  
 e.g.

### Socially



People within the country will have access to resources and therefore a better quality of life  
 e.g.

## What is a global resource?

Resource -

Natural Resource -

## Examples of natural resources

- 1
- 2
- 3
- 4
- 5

## Where can fresh water be found

- 1
- 2
- 3
- 4

## Factors that affect water supply - **natural**

Climate =

River systems =

Geology =

## Factors that affect water supply - **human**

Pollution -

Over abstraction -



## Reasons fresh water is important

- 1
- 2
- 3
- 4
- 5

## Explain the Factors that affect energy **supply**

Cost to exploit

Physical factors

Political Factors



## Explain the Factors that affect energy **consumption**

Economic development

Population increase

## CASE STUDY

### Oil Shales -

**location** = \_\_\_\_\_  
 Oil can be extracted from tars and fields

#### Key Facts

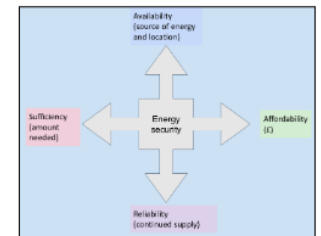
- 1
- 2
- 3

#### Impacts

- 1
- 2
- 3

Renewable =

Non-renewable =



## Energy Security-

## CASE STUDY

### Grand Ethiopian Renaissance Dam – Managing water insecurity

#### Key Facts

River Nile is in East Africa, flowing South to North  
River Nile runs through 11 countries

**Transboundary resource** = A resource that is shared between two or more countries

#### History

Egypt has historically had the power in water agreements, leaving countries like Sudan and Ethiopia with less rights to the water running through their countries.

#### The GERD

Built in in 2011 in Ethiopia on the border with Sudan

#### Advantages

Hydroelectric power for Ethiopia - which had 69% of its population was without electricity, and will be able to sell on the reserves to other neighbouring countries.

Irrigation for crops in Ethiopia

Can control river flow to reduce flooding in Ethiopia and downstream in Sudan

Increase water security for Ethiopia with its rising population and increasing development.



## CASE STUDY

### Grand Ethiopian Renaissance Dam – Managing water insecurity

#### Key Facts

1

2

Transboundary resource =

#### History

#### The GERD

#### Advantages

1

2

3

4

#### Disadvantages

1

2

3





An economy =

Trade is the \_\_\_\_\_ and \_\_\_\_\_ of goods & services.

International trade is

Countries typically **specialise** in a good or service to trade in, for example

Exports are

Imports are

The UK mostly trades with HIC's in Europe as well as the USA. They trade with \_\_\_\_\_ due to

Services can be traded as well as goods, including...

Container ships are getting bigger and bigger (up to 400m long)  
 – In Feb 2020 a ship carried 24,000 containers.

This means that:

- 1.
- 2.

### Physical factors affecting international trade

- 1.
- 2.

### Year 9 Geography Global Economy

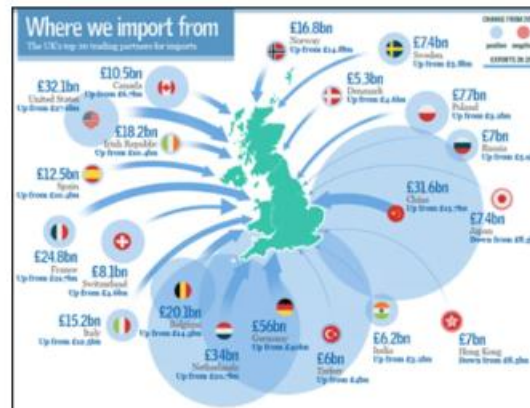
Primary sector = extracting natural \_\_\_\_\_ from the land and sea.

Secondary sector =

Tertiary sector =

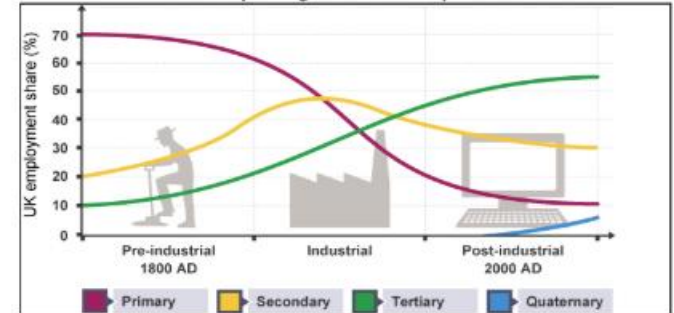
Quaternary sector =

International trade example:



### The Clark-Fisher Model

Shows how the employment structure of a country changes with development



### Political factors affecting international trade

- Tariffs
- Quotas
- Subsidies
- Embargoes/sanctions
- Trade bloc

**TNC = Transnational Corporation** (operate in more than one country)

**Origin country** - where TNC started up    **Host country** - where TNC operates in

TNCs usually base their tertiary & quaternary sector work in HICs, as they can employ more educated and skilled workers, but will invest in

primary & secondary sector work in NEEs & LICs to take advantage of:

- cheap raw materials
- cheap labour supply

TNCs will be especially keen to invest in countries which already have:

- good transport infrastructure (roads, railways, ports, airports).
- access to markets (e.g. Trade Blocs) where the goods are sold.
- friendly government policies (e.g. low tariffs and taxes).

#### Positive Impacts of TNCs

- Inward investment by TNCs helps countries by providing new jobs and skills for local people.
- TNCs bring wealth and foreign currency to local economies when they buy local resources, products and services. The extra money created by this investment can be spent on education, health and infrastructure.
- The sharing of ideas, experiences and lifestyles of people and cultures. People can experience foods and other products not previously available in their countries.
- Globalisation (economic and social links across the world) increases awareness of events in faraway parts of the world. For example, the UK was quickly made aware of the 2004 tsunami and sent help rapidly in response.
- Globalisation may help to make people more aware of global issues such as deforestation and climate change, alerting them to the need for humans to pursue more sustainable development.

#### Negative Impacts of TNCs

- TNCs operate mostly in the interests of the richest countries, which continue to dominate world trade at the expense of developing countries. The role of lower income countries in the world market is mostly to provide the HICs with cheap labour and raw materials.
- There are no guarantees that the wealth from inward investment will actually benefit the local community. Often, profits are sent back to the HIC where the TNC is based.
- TNCs, with their massive economies of scale, may drive local companies out of business.
- If it becomes cheaper to operate in another country, the TNC might close down the factory and make local people redundant.
- An absence of strictly enforced international laws means TNCs may operate in host countries in a way that would not be allowed in an HIC, e.g. polluting the environment, running risks with safety, or imposing poor working conditions & low wages on local workers.
- Industry may begin to thrive in host countries at the expense of jobs in manufacturing in the HICs (e.g. the UK), especially in textiles (clothes manufacturing).

#### Reasons for the global growth of TNCs

##### More relaxed rules and laws

(environment, lower tax etc.)

To **access markets (emerging)** to increase sales

##### Cheaper land costs

To **gain grants and other rewards (tax breaks)** from governments

To **get access to raw materials and resources** (and cheaper ones or ones available all year round)

To **operate inside local trade barriers**, such as **tariffs** and **quotas**. To get inside trade blocs

##### Cheaper labour!

To **access skilled labour/talent** needed

To **reduce risk** by having branches in lots of different countries

TNC case study **Apple:**

**Headquarters:** California, USA

**Manufacturing (secondary sector jobs):** Foxconn, Zhengzhou, China (NEE)

**Reasons why manufacturing is not in USA (HIC)**

Lower wages

High number of workers

Land is cheaper to buy

Lower environmental laws (e.g. on pollution)

Direct access to global markets

Avoid trade restrictions

**Positives** for the **origin** country (USA)

Receives profits

Jobs in Apple as quaternary sector (e.g. software development

and programming)

**Negatives** for **origin** country (USA)

Lost manufacturing jobs when factories were outsourced

**Positives** for **host** country (China)

Jobs for locals, income

Trading recognition in global markets

Boost countries economy

**Negatives** for **host** country (China)

Poor working conditions for workers (minimum pay for 60 hour weeks)

Environmental pollution and degradation of the land

Don't receive lots of profits as money gets sent back to the

USA

No job trajectory (factory workers can't work their way up to

tertiary

or quaternary jobs easily)

TNC =  
Origin country -  
Host country -

TNCs usually base their tertiary & quaternary sector work in \_\_\_\_\_, as they can employ more \_\_\_\_\_, but will invest in primary & secondary sector work in \_\_\_\_\_ to take advantage of:

- 1.
- 2.

TNCs will be especially keen to invest in countries which already have:

- 1.
- 2.
- 3.

#### Positive Impacts of TNCs

- 1
- 2
- 3
- 4
- 5

#### Negative Impacts of TNCs

- 1
- 2
- 3
- 4
- 5
- 6

### Reasons for the global growth of TNCs

- 1
- 2
- 3
- 4
- 5
- 6
- 7

TNC case study **Apple**:

**Headquarters:** \_\_\_\_\_

**Manufacturing (secondary sector jobs):** \_\_\_\_\_

**Reasons why manufacturing is not in USA (HIC)**

- 1
- 2
- 3
- 4
- 5

**Positives** for the **origin** country (USA)

- 1
- 2

**Negatives** for **origin** country (USA)

- 1

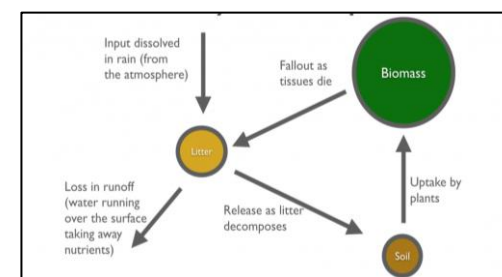
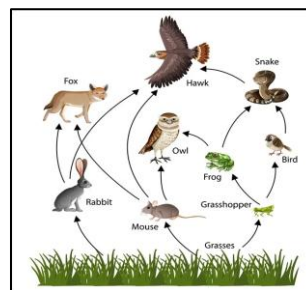
**Positives** for **host** country (China)

- 1
- 2
- 3

**Negatives** for **host** country (China)

- 1
- 2
- 3
- 4

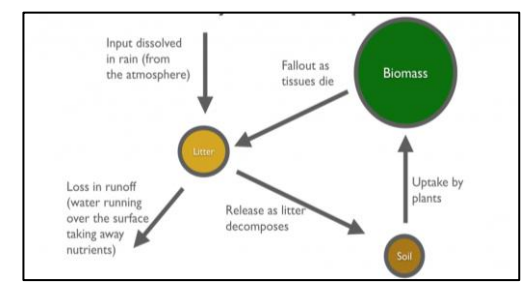
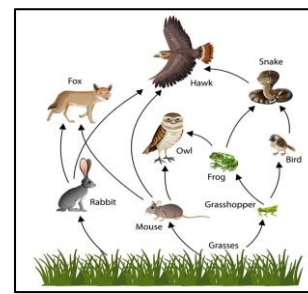
# Ecosystem Exploitation



Ecosystem	A community of biotic and abiotic features, interacting within a particular environment
Biotic	Living features
Abiotic	Non living features
Producer	Get their energy from the sun e.g. plants
Consumer	Eat other things to get their energy
Solar Insolation	Strongest solar insolation at the equator (most direct solar radiation on area of Earth's surface) Weakest solar insolation at the poles (low level of solar radiation)
Food Chain	Simple diagram showing transfers of energy in an ecosystem
Food Web	Diagram showing complex interconnectedness of energy transfers
Interdependence/ Interrelationships	Connectedness of abiotic and/or biotic features working together in an ecosystem
Nutrient Cycle	Diagram showing transfer of nutrients between biomass (living), litter (dead living) and soil (decomposed litter) as a closed system
Resilient Ecosystems	bounce back from damage, as plants and animals grow quickly e.g. tropical rainforest
Fragile Ecosystem	take a long time to recover from damage, as plants and animals grow slowly.
Biodiversity	the number of different plant and animal species living in an ecosystem
Exploitation	taking advantage of something/someone.
Effect/Impact	a change which is a result of something (they can be good and bad).
Management	ways that humans can control, respond to or deal with effects/impacts.
Sustainable	doing things in a way that won't cause problems in the future.

<u>Ecosystem/Case Study</u>	<u>Exploitation</u>	<u>Impacts</u>	<u>Management</u>
Congo Rainforest Central West Africa	Mining for minerals (e.g. cobalt used in batteries)	Land degradation, deforestation, habitat loss, water contamination, fruit and vegetables contaminated, child labour/poor working conditions Jobs for locals, income, better opportunities from earning	Sustainable practise, better working conditions for workers, more pay, money invested in communities for facilities, afforestation Companies getting resources have to pay for damages Limit area of deforestation
Yosemite National Park, West coast USA	Tourism	Jobs, income to the area, tourists pay for accommodation, entertainment, tours. Littering, pollution, more roads and facilities need building and maintaining, noise pollution disrupt animals, river bank erosion destroys habitats Ahwahneechee indigenous Indians have not received any compensation for loss of their land since 1851.	Limit number of tourists, Educate tourists on their impacts of the site, have more bins (recycling, visible to reduce litter), implement noise controlled areas, managed footpaths, signs to prevent people walking off paths to stop erosion
Fishing in the North Sea (East of UK, West of Norway)	Overfishing	Numbers of cod found to be critically low (from fishing), anglers (people who fish) found to be abusing laws and regulations to maintain healthy fishing standards, affect cod stocks	Better checks on fishing regulations and laws, sustainable yields of fish, only catching a set quota and releasing back small fish to grow and reproduce.
Tundra, North Russia	Hunting	Loss of keystone (important) species.	Better regulations and laws limiting number of trophy catches allowed, no hunting zones.

# Ecosystem Exploitation



Ecosystem	A community of
Biotic	
Abiotic	
	Get their energy from the sun e.g. plants
	Eat other things to get their energy
Solar Insolation	
	Simple diagram showing transfers of energy in an ecosystem
	Diagram showing complex interconnectedness of energy transfers
Interdependence/ Interrelationships	
Nutrient Cycle	Diagram showing
	bounce back from damage, as plants and animals grow quickly e.g. tropical rainforest
	take a long time to recover from damage, as plants and animals grow slowly.
Biodiversity	
Exploitation	
Effect/Impact	
	ways that humans can control, respond to or deal with effects/impacts.
Sustainable	

<u>Ecosystem/Case Study</u>	<u>Exploitation</u>	<u>Impacts</u>	<u>Management</u>
Congo Rainforest Central West Africa	Mining for minerals (e.g. cobalt used in batteries)	-  +	Limit area of deforestation
Yosemite National Park, West coast USA	Tourism	-  +	
Fishing in the North Sea (East of UK, West of Norway)	Overfishing	-  +	
Tundra, North Russia	Hunting		

Ocean	Large body of water, there are five
Basin Relief	means the height and shape of the ocean floor.
Ocean Surface Temperature	The temperature of the top layer of the ocean.
Why Are There Warmer Ocean Surface Temperatures Near The Equator?	More concentrated solar radiation at the Equator warms the oceans. Less concentrated solar radiation further from the Equator, so the oceans are warmed less.
What Changes With Depth Of Oceans?	Temperature decreases, less solar radiation, less light, lower biodiversity (less producers so less food sources)
Current	A flow of matter, e.g. a flow of water.
Gyres	Surface ocean currents created by wind
Deep Ocean Currents	Not created by the wind, created by thermohaline circulation (temperature and salinity changes in the water between poles and equator)
Food Chain:	shows the feeding relationships between living things.
Food Web	a natural interconnection of food chains and a representation of what eats what in an ecosystem. (energy transfers)

### Human Impacts

Overfishing	Overfishing can impact entire food webs. It can change the size of the fish and the speed at which other fish grow. When too many fish are taken out of the ocean this can cause an imbalance in the food web and lead to the loss of important marine species.
Ocean Pollution	Ocean pollution can damage the environment and the health of the organisms. Animals can become tangled in pieces of rubbish. When a fish consumes pollutants the pollutant will carry on up the food chain. Some chemicals are toxic to marine life.
Ocean Warming	Global warming will cause ocean water to increase in temperature. Warm waters can damage ocean corals which are homes to many fish - habitat loss. Marine life cannot adapt fast enough to the changing temperatures.
Noise Pollution	Noise from shipping vessels and noise from construction has been found to impact the wellbeing of marine life and can significantly impact their natural behaviour. This noise can also impact breeding events and lead to less successful breeding.

### Energy sources

Renewable	Energy which can be reused, is infinite and non-polluting e.g. solar, tidal, wind
Non-renewable	Energy from burning of fossil fuels and is finite (once it is gone it is gone forever) e.g. oil, gas, coal
Case study: Swansea bay tidal lagoon	Tidal power station, costing £1 billion. + Renewable energy, last a long time, low CO2 emissions, local employment - physical disturbance of habitats, noise and vibrations, local inshore fisheries affected, controversial



## Oceans

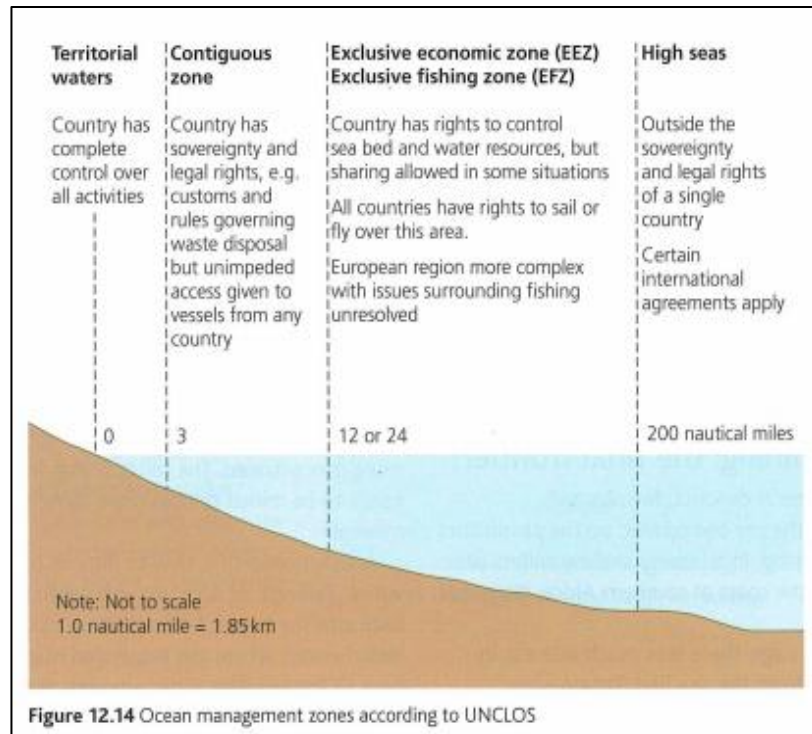
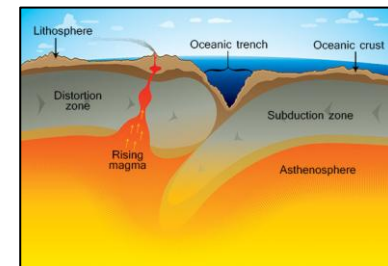


Figure 12.14 Ocean management zones according to UNCLOS

Ocean	
Basin Relief	
	The temperature of the top layer of the ocean.
Why Are There Warmer Ocean Surface Temperatures Near The Equator?	.
What Changes With Depth Of Oceans?	
Current	
Gyres	
	Not created by the wind, created by thermohaline circulation (temperature and salinity changes in the water between poles and equator)
Food Chain:	
Food Web	

**Human Impacts**

	_____ can impact entire food webs. It can change the size of the fish and the speed at which other fish grow. When too many fish are taken out of the ocean this can cause an imbalance in the food web and lead to the loss of important marine species.
Ocean Pollution	
Ocean Warming	
Noise Pollution	

<b><u>Energy sources</u></b>	
	Energy which can me reused, is infinite and non polluting e.g. solar, tidal, wind
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Case study: Swansea bay tidal lagoon	Tidal power station, costing £1billion. + -



**Oceans**

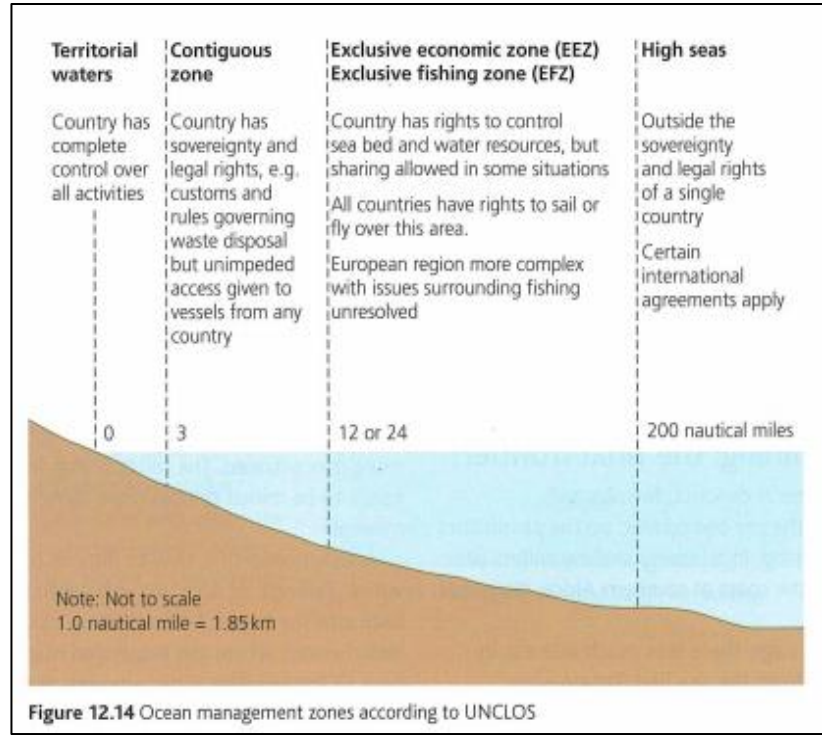
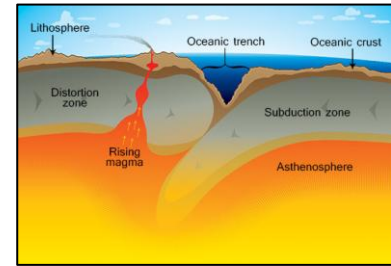


Figure 12.14 Ocean management zones according to UNCLOS

**Relief** = the height and steepness of the land.

**Upland areas** = areas of high or hilly land, e.g. the Cambrian Mountains, Grampian Mountains, and Pennines.

**Lowland areas** = areas of low-lying land, often near the sea, e.g. The Norfolk Broads, The Fens, and the London Basin.

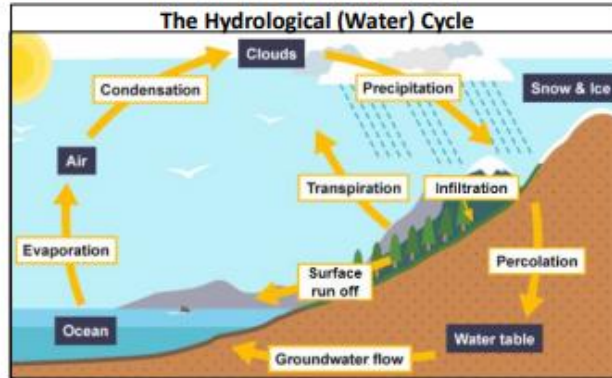
**Rivers** = large natural streams of water flowing in a channel to the sea, a lake, or another river, e.g. the River Severn, the River Thames, and the River Trent.

**Sediment** = natural material that has been broken down, e.g. rocks, pebbles, or sand.

**Erosion** = sediment being broken down by moving water.

**Transportation** = sediment being moved by water.

**Deposition** = sediment being dropped when the water loses kinetic energy.



Erosion	<b>Hydraulic action</b>	Waves or river water crash against rocks and compress air in the cracks, which puts pressure on the rocks. Over time, this widens the cracks and causes part of the rock to break away.
	<b>Abrasion</b>	Sediment in the water scrapes and rubs against the rock.
	<b>Attrition</b>	Sediment in the water smashes against each other and breaks into smaller fragments, getting smoother and smaller over time.
	<b>Solution</b>	Chemicals in the water dissolve the rock.
	<b>Vertical erosion</b>	Erosion happening downwards. This deepens the river channel making it V shaped in the upper course of the river
	<b>Lateral erosion</b>	Erosion happening sideways. This widens the river channel in the middle and lower courses of the river.
Transport.	<b>Traction</b>	Large sediment like boulders are rolled along the river bed.
	<b>Saltation</b>	Smaller sediment is bounced along the river bed.
	<b>Suspension</b>	The smallest sediment like silt and clay are carried along in the water.
	<b>Solution</b>	Soluble materials dissolve in the water.
<b>Deposition</b>	Sediment is dropped by the water when it loses kinetic energy.	

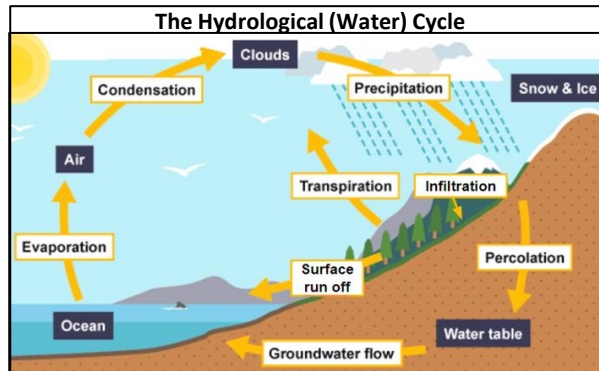
A Relief Map of the UK



# GCSE Geography Knowledge Organiser - Paper 1 Section C: Physical Landscapes in the UK - Overview

Relief =  
 Upland areas =  
 Lowland areas =  
 Rivers =

Sediment =  
 Erosion =  
 Transportation =  
 Deposition =



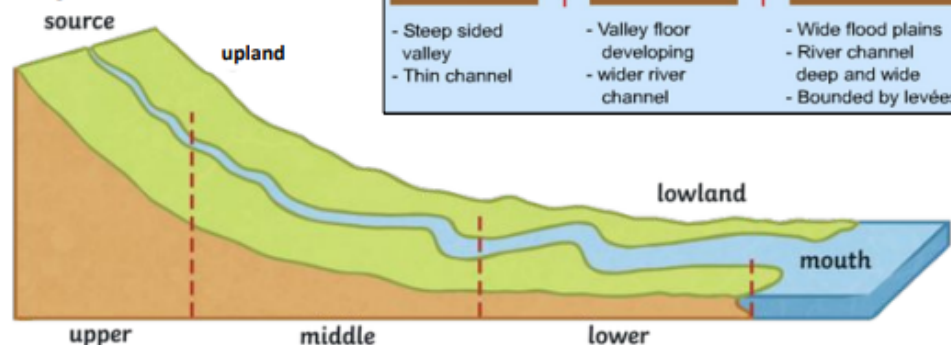
<b>Erosion</b>	Hydraulic action	
	Abrasion	
	Attrition	
	Solution	
	Vertical erosion	
<b>Transport</b>	Lateral erosion	
	Traction	
	Saltation	
	Suspension	
<b>Deposition</b>		



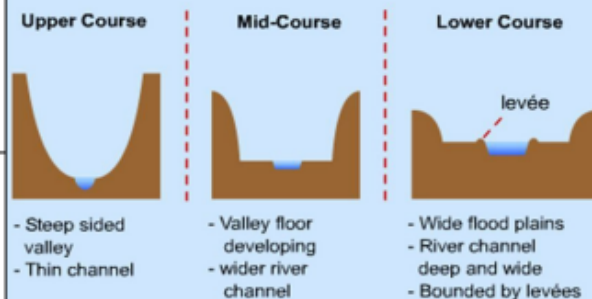
**Cross profiles** show the shape of the river channel and valley.

**Long profiles** show the Gradient (steepness) of the river from source to mouth.

### Long Profile of a River



### Cross Profiles of a River



- Steep sided valley
- Thin channel
- Valley floor developing
- wider river channel
- Wide flood plains
- River channel deep and wide
- Bounded by levées

### Middle Course Landforms Formation - Created by Erosion & Deposition

#### Meanders

1. Rivers develop large bends called meanders in the middle and lower course.
2. The current is faster on the outside of the bend because the channel is deeper and there is less friction. The fast current creates river cliffs through erosion.
3. The current is slower in the inside of the bend because the channel is shallower. This means there is deposition in this area forming river beaches.

#### Oxbow Lakes

1. Meanders get larger over time.
2. Erosion causes the outside of the bends to get closer until there is just a small piece of land left between them called the neck.
3. The river eventually breaks through this land (commonly during a flood) and the river flows along the shortest course.
4. Deposition eventually cuts off the old meander forming an oxbow lake.



### Upper Course Landforms Formation - Created by Erosion

#### V-shaped Valleys and Interlocking Spurs

1. In the upper course of the river most of the erosion is vertical because the water has more gravitational potential energy. This creates deep v-shaped valleys.
2. Weathering keeps the v-shaped valley sides steeply sloped.
3. Rivers aren't powerful enough to erode laterally, so wind around the high hillsides in their path. The hillsides interlock (overlap) with each other and these are interlocking spurs.



#### Waterfalls

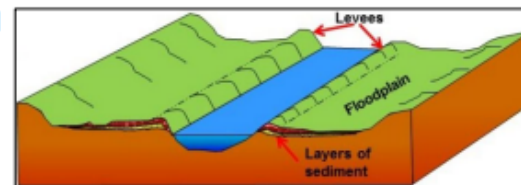
1. A river flows over a layer of more resistant (hard) rock on top of less resistant (soft) rock.
2. The less resistant (softer) rock is eroded by hydraulic action and abrasion faster than the more resistant (harder) rock creating a step in the river.
3. As water goes over the step the erosion continues which creates steep drop and abrasion creates a deep plunge pool at the bottom of the waterfall.
4. The resistant rock is undercut leaving an overhang. This eventually collapses.
5. Over time, the waterfall retreats leaving a gorge (narrow steep sided valley).



### Lower Course Landforms Formation - Created by Deposition

#### Floodplains

1. When a river floods, the water deposits sediment across the flat valley floor.
2. Over time, this builds up layers of sediment making the valley floor higher.
3. The flat land near the river channel which floods is called a floodplain.



#### Levees

1. During flooding, sediment is deposited on the floodplain.
2. The largest sediment (rocks) will be deposited closest to the river bank.
3. Over time this builds up natural embankments (raised bits) along the edges of the river called levees.

#### Estuaries

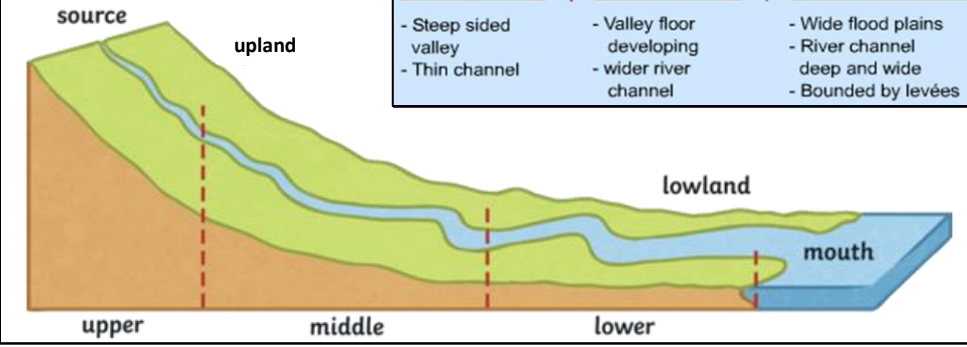
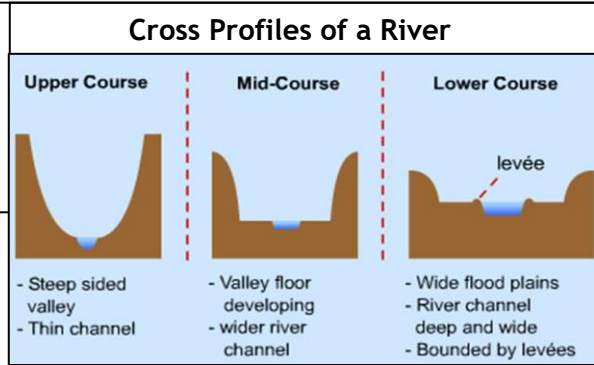
1. Where a river enters the sea at its mouth, tidal sea water will flood its banks every high tide and the river water will lose kinetic energy.
2. These processes both cause deposition.
3. As sediment builds up, mudflats form and this part of the river is called an estuary. Salt marshes can form on the edges of estuaries.

# GCSE Geography Knowledge Organiser - Paper 1 Section C: Physical Landscapes in the UK - Rivers

Cross profiles show

Long profiles show

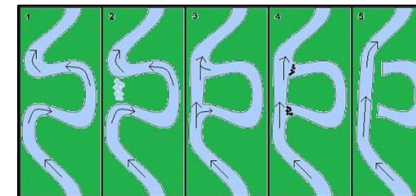
Long Profile of a River



Middle Course Landforms Formation - Created by Erosion & Deposition

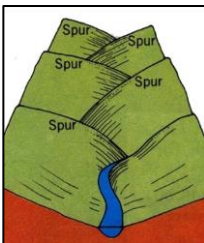
Meanders

Oxbow Lakes

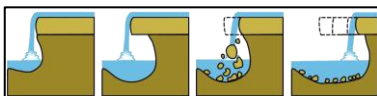


Upper Course Landforms Formation - Created by Erosion

V-shaped Valleys and Interlocking Spurs



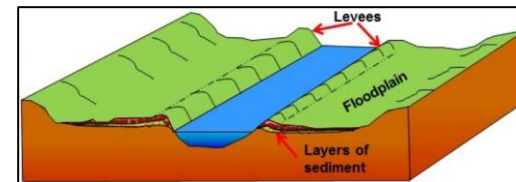
Waterfalls



Lower Course Landforms Formation - Created by Deposition

Floodplains

Levees



Estuaries

### Timeline:

**29 October 1929** - Wall St Crash causing Great Depression

**January 1933** - Hitler becomes Chancellor

### 1935 - Nuremberg Race Laws

German Jews now excluded from being German; banned from marrying or having sexual relations with Aryans

### Holocaust Knowledge Organiser



#### Know that Jews were persecuted prior to the Holocaust

- Jews and Christians are different as Jews believe Jesus was not the Son of God
- The rise of Christianity in medieval Europe caused an increase in antisemitism
- Slanders (**blood libel**) were spread around stating that Jews killed and ate Christian children
- Jews were discriminated being banned from owning land and joining guilds (training in a craft)
- Jews were expelled from England in 1290 by King Edward I unless they converted to Christianity

#### Know that dehumanisation was the key in enabling and justifying persecution

- **Dehumanisation** - to take away the human identity and characteristics in someone
- The Nazi Party degraded Jews, communists, homosexuals, slaves to '**untermenschen**' or socially and racially inferior groups
- This was part of systematic self-justification for persecution - taking away the concept of Jews being human justified acts of terror and genocide against them

#### Know why Germans voted for the Nazi Party and their extremist views

The Nazi Party were very successful in their political campaigns through;

- Propaganda (speeches, posters)
- The use of the SA (stormtroopers) used to bully communists and abuse Jews
- Promises to the people
- Organisation of the Party
- Hitler's personal appeal

The **Great Depression (economic crisis)** of 1929 caused mass unemployment, hunger, homelessness and desperation causing the German electorate (people voting) to believe and find more radical solutions.

### Victims of the Holocaust

Jews



Physical disabilities



Homosexuals



Jehovah's Witnesses

Gypsies (Roma and Sinti)



Mentally or learning impaired

Black and non-White ethnicity



Communists

#### Know that persecution was driven by racial and cultural misconceptions

That Nazi racial policy was inspired by **Darwinism** - the idea that the strongest and fittest in society survive over the weakest. The Nazi Party believed that so called 'defects' could be passed down to further generations, threatening 'pure' and 'healthy' Aryans.

#### Know that those cultural and racial misconceptions determined their persecution

- **Sterilisation** (forced castration, chemical and/or mutilation) to stop people from reproducing
- **Euthanasia** (murdering victims through the misconception of 'putting them down' / 'good' death through programmes such as '**Aktion T4**')
- **Extermination** (mass murder through extermination camps and mobile killing units)
- **Ghettoisation** (forcing Jewish communities into isolation on rations, e.g. Warsaw ghetto)
- **Concentration camps** (such as Dachau, for political prisoners and associates)
- **Yellow badges**
- Banned from working in certain fields
- **Nuremberg Race Laws (1935)** banned Jews from being considered citizens



## Holocaust by Bullets

- As Nazi Germany invaded Poland for **lebensraum (living space)** in 1939, and then Russia in 1941, the Nazi Party adapted its policy due to the increasing number of Jewish people they invaded
- The Nazi Party designed the **einsatzgruppen** (mobile killing units) which travelled behind the invading German Army.
  - Supported by local police forces
  - Locals in countries like Latvia and Lithuania which were anti-semitic
- **Babi Yar, in Ukraine**, where the Nazis murdered 33'000 in one single killing operation in Sep 1933
- New killing techniques including mobile gas vans were deployed, but were considered 'inefficient'



## What is meant by the Final Solution?

- Due to increased numbers of Jewish populations the Nazis invaded in East Europe, they designed a new plan to exterminate Jews
- **Wannsee Conference in 1942**, decided by high-ranking Nazi officials that the Jews were to be murdered as efficiently as possible
- The mass building of death and concentration camps in Eastern Europe (in Poland particularly), of sites such as **Treblinka, Chelmno, Auschwitz, Sachsenhausen, and Dachau** were to be used as both labour, holding and death sites for millions of victims
- Building these camps in Eastern Europe would be closer to the frontlines thereby making them more efficient and easier for the Nazis to murder millions

## How was it possible?

- The Holocaust was made possible because there were too many sections of German society which allowed it to happen, either through **omission** or active **participation**

1. **Businessmen and Industries** - Like IG Farben profited from the availability of slave labour
1. **Civilians** - Turned away from acts of violence, voting for extremism
1. **Hitler** - the leader of the Nazi Party, and his anti-semitic views in *Mein Kampf*
1. **Nazi Party Officials** - for facilitating discrimination and supporting the Nazi agenda
1. **Soldiers**- actively murdering populations as they swept East
1. **Rural Locals** - who colluded with the Nazis against local Jews and asocials
1. **Foreign Officials** - Politicians abroad who supported the Nazis



1. According to the timeline, what major economic event in 1929 led to the Great Depression and helped the Nazi Party gain support?
2. What is "Dehumanisation," and why was it important to Nazi persecution?
3. What term did the Nazi Party use to describe groups they considered socially and racially inferior?
4. Name three groups, other than Jews, who were victims of the Holocaust.
5. What did the Nuremberg Race Laws of 1935 do to German Jews?
6. The Nazi Party used the SA (stormtroopers) for what purpose during their political campaigns?
7. Nazi racial policy was inspired by "Darwinism." What was the core idea of this theory that they applied to society?
8. What was "Aktion T4," and which group of victims did it target?
9. Define "Ghettoisation" as described in the organiser.
10. In the "Why Germans voted for the Nazi Party" section, name two methods the party used to be successful in their campaigns.
11. What was the "Einsatzgruppen"?
12. Nazi Germany invaded Poland and Russia for *lebensraum*. What does this term mean?
13. What happened at Babi Yar, Ukraine, in September 1941 (Note: image says 1933, but context indicates the 1941 invasion)?
14. What was decided at the Wannsee Conference in 1942?
15. The organiser mentions several "death and concentration camps." Name three of the sites listed.
16. Why did the Nazis choose to build these camps in Eastern Europe rather than in Germany?
17. How did "Businessmen and Industries" like IG Farben contribute to the Holocaust?
18. According to the "How was it possible?" section, what is the difference between "omission" and "active participation"?
19. Which group is described as "colluding with the Nazis against local Jews and asocials"?
20. Looking at the map, what is the difference in the symbols used for a "Death Camp" versus a "Concentration Camp"?

**Welfare State** - (social support)

- To stimulate the Cycle of Prosperity, the new Labour government focussed on stimulating welfare

Giant	Labour's Solutions
<b>Idleness</b> (unemployment)	Stimulate growth in economy
<b>Wants</b> (No money)	National Insurance Scheme 1948
<b>Disease</b> (Unhealthy)	NHS created in 1948
<b>Squalor</b> (Poor housing)	New council housing
<b>Ignorance</b> (poor education)	School compulsory until 14



**How did Britain change after 1945?**

**What does the Rolling Stones tell us about the 1960s?**

- Inspired by Vietnam War, wider societal changes in the 1960s
- Band - led by Mick Jagger - symbolised 'sex, drugs and rock n roll';
- Symbolised a distancing from the past: anti-authority, recklessness for rules
- Music genre emphasised drug taking, sexual relations
- Inspired by American blues, rock
- Altamont Concert in 1969 ended 'Summer of Love' - violent gig ended in deaths of Meredith Hunter because of the Hells Angels were used as security



**Sexual Revolution of the 1960s?**

- Life for women in the 1950s: unfair, unequal, marriage, traditional
- For gay men, stigma, prejudice and unfairness before 1967
- 1959 Obscene Publications Act** - meant books like Lady Chatterly's Lover was released
- 1967 Abortion Act** - allows women to have abortions
- 1960 Contraceptive Pill**
- 1969 Divorce Laws**
- 1967 Sexual Offences Act** legalised homosexuality for over 21s in private



**Women's Equality after 1945**

- Women's Liberation Movement demanded equal pay and education for women
- Protests: marches, meetings, demonstrations
- Challenged traditional ideas of women as mothers and good housewives
- Dagenham Ford Factory Protest in 1968:** striking women demanded equal pay
- Led to the **Equal Pay Act of 1970**, despite the pay gap which still exists
- Sex Discrimination Act of 1975** meant that it was illegal for women to be treated unfairly in work and education



**Disabilities after 1945**

- Medieval era: those with disabilities treated with suspicion as punished by God*
- Early Modern: disabled treated as Deserving under the Poor Law of 1601, meaning they get 'dole' / 'benefit'*
- Industrial: mechanisation means disabled people were marginalised as they couldn't keep up*
- WWII changed attitudes: more understanding of injuries
- Creation of Welfare State and the NHS
- The **1944 Disabled Persons Act** meant companies had to hire disabled people at 3% workforce
- Success: law changed
- Failure: some attitudes never changed, law was rarely enforced

**Race Relations after 1945 - Windrush**

- British Nationalities Act 1948** gave all in the Empire a British passport
- Migration increased to Britain: many became nurses, construction builders
- Many migrants faced discrimination: verbal abuse, housing and job prejudice
- Rise of the **National Front:** violent far-right anti-immigration protests against migrants
- 1965 Race Relations Act: ended public discrimination e.g. pubs, bars
- 1968 Race Relations Act: ended public discrimination in housing, employment and education
- 2004: Hate Crimes:** crimes against minorities receive harsher punishments

1. **The new Labour government aimed to defeat "Five Giants." Name three of them.**
2. **In what year was the National Health Service (NHS) created?**
3. **What did the 1960 Contraceptive Pill and the 1967 Abortion Act contribute to in the 1960s?**
4. **What major change did the 1967 Sexual Offences Act bring for gay men over the age of 21?**
5. **Which famous rock band symbolised "sex, drugs, and rock n roll" and a distancing from the past in the 1960s?**
6. **What were women at the Dagenham Ford Factory protesting for in 1968?**
7. **What did the Sex Discrimination Act of 1975 make illegal?**
8. **According to the "Race Relations" section, what did the British Nationalities Act 1948 give to everyone in the Empire?**
9. **What was the "National Front," and what did they protest against?**
10. **Under the 1944 Disabled Persons Act, what percentage of a workforce were companies required to hire as disabled people?**

**Timeline:**

**1861-65-**  
American Civil War

**1865 -**  
Slaves freed

**1865 -** Jim Crow laws

**1909 -**  
NAACP founded

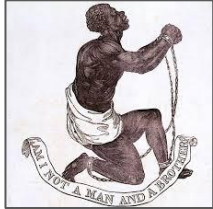
**May 1954 -**  
Brown vs Topeka makes education desegregate d

**May 1955 -**  
Schools start desegregatin g

**September 1957 -**  
Central High, Little Rock

**Dec 5th 1955 - Dec 1956 -**  
Montgomery Bus Boycott

**Y9 History Knowledge Organiser: How did the Civil Rights activists achieve progress?**



**1861-65:** American Civil War (Northern States anti-slavery vs Southern States whose cotton economy depended on slavery)

**1865 :** Slaves freed from plantations but many decide to enter **sharecropping** as they had no education, money or opportunity to gain complete freedom from their plantations

**America was very divided by 1950**

- Segregation (separate but equal) :
  - African Americans could vote or go to school, but services like schools and hospitals were poor quality.
  - African Americans had to go to separate schools, pubs, shops
- African Americans could vote but were threatened not to:
  - Intimidated and threatened by employers
  - Grandfather Clause ( prove your grandfather voted, difficult because African American grandfathers were slaves)
  - Literacy Tests (had to prove you could read and write, which poor African Americans could not do



**NAACP and CORE**

- NAACP (National Association for the Advancement of Coloured Peoples) made by WEB de Bois in 1909 fought discrimination through the courts
- CORE (Congress for Racial Equality) fought for equality by white middle-class Americans



Achieving social change in America during the 1950s was difficult as many stereotyped civil rights activists as communists

**Popular Memory**

- *Produced by non-historians*
- *Not necessarily based on sources*
- *Easy to access for everyone*

**Academic History**

- *Produced by professional historians*
- *Based on evidence from sources*
- *Peer-reviewed by other historians*
- *Sometimes difficult to access*

**Montgomery Bus Boycott - December 5th 1955 - December 20th 1956**



1. Rosa Parks was NAACP secretary in Montgomery
2. Parks refused to give up her seat on Dec 1st 1955
3. Parks is arrested and fined \$10.
4. The Women's Political Council set up a boycott
5. Over 40'000 (75% of the bus company's customers) African Americans boycott buses
6. Carpools set up, taxis charge 10 cents
7. Martin Luther King forms MIA (Montgomery Improvement Association)
8. June 5th 1956 makes segregation on buses illegal citing the 14th Amendment
9. Boycott ends 1 December 1956
10. Violence as snipers fire into bus shelters, black churches set on fire, seven KKK bombers arrested
11. Significant because ;
  - a) MLK becomes the leader of the Civil Rights
  - b) Widely regarded as the first- mass movement to end segregation

**Brown (NAACP) vs Topeka, Kansas (Board of Education) in 1955**

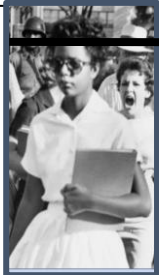
- Black students had \$43 spent on them (white students had \$149)
- Pupil teacher ratio was 20% in white schools
- Teachers working in African American schools were paid 50% of white school teachers

Brown wins trial, citing America's 14th Amendment, that no American shall feel inferior. Desegregation was now lawful as of May 1954. It took till May 1955 for all schools to start complying.



By 1957, less than 12% of 6200 schools had desegregated. Many white families relocated to avoid sending their child to a Black school. There was a rise in KKK violence, and new White Citizens Council appearing.

**Central High, Little Rock, Arkansas 1957**



1. Crowds outside **Central High, Little Rock**, block 9 African American students from entering
2. **Governor of Arkansas, Orval Faubus**, orders **250** troops to 'maintain peace' but in reality block them
3. **President Eisenhower** orders Faubus to desegregate
4. Faubus ignores the order by calling Southern Governors together to discuss desegregation
5. Eisenhower orders **10'000 National Guard** troops in to ensure the students can enter
6. Faubus orders all schools in Arkansas to close
7. The event is significant because:
  - a) the world's attention is on American Civil Rights
  - b) it's the first time the President gets involved in State affairs regarding Civil Rights.

**Greensboro Sit-In Movement 1960**



1. Four students sit-in at Woolworths
2. Influenced by peaceful protests such as Gandhi and the Freedom Riders of CORE
3. Inspired by racial murders like Emmett Till in 1955
4. Local media called as the police can't arrest them
5. Over 300 students gather by Feb 5th, spreading to 55 cities in 13 States by March.
6. By summer, Greensboro Woolworths quietly end their policy of segregation
7. The SNCC (Student Non-Violent Committee) was founded
8. The SNCC was founded in 1963

**Martin Luther King:**



- Inspired by Gandhi's peaceful protest
- 1957 founds the Southern Christian Leadership Conference
- Organised major marches and rallies on labour rights, desegregation
- *March on Washington* in August 1963 where he delivers 'I have a Dream' speech, attended by 200'00 people
- 1964 Awarded Nobel Peace Prize
- 1967 gave a speech 'Beyond Vietnam' criticising America's war in Vietnam, protesting for social and economic justice in the US instead
- Travels to Memphis in 1968 to give a speech 'I've been to the Mountain Top', inspired by the Bible and the Good Samaritan

**Black Power:**

- Challenged police aggression and unfair arrests
- Provided free breakfasts in local communities
- Campaigned against War in Vietnam
- Proud of being Black
- Demanded change
- Created by Huey Newton and Bobby Seale in 1966
- Armed and ready for conflict

**Opposition to the Civil Rights Movement**



**Political**

1. White Citizens Council - 60000 members by 1954, challenged desegregation
1. Dixiecrats - Politicians supporting segregation
1. State Governors: e.g. Faubus of Arkansas, not wanting to desegregate
1. Local Community Opposition: Schools and communities campaigned for segregation

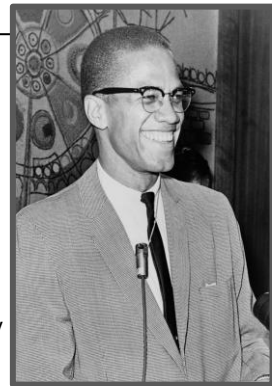
**Popular**

- The KKK (Ku Klux Klan) or WASPS (White Anglo-Saxon Protestants) lynched (hanged) African Americans, verbally abused and targetted them because of their skin colour
  - Mississippi Burning Case
- KKK violence intensified after June 1964 because of the 'Freedom Summer'



**Was Violence the answer for Civil Rights Activists?**

- Malcolm X's philosophy: African Americans should have a separate state, joining the Nation of Islam
- Inspired the Black Power movement in 1963-70 which believed non-violent methods wouldn't work - take power 'by any means necessary'
- Changed his mind on separatism, creating the Muslim Mosque and Organisation of African American Unity in 1964 after a pilgrimage to Mecca
- Assassinated in 1968 by Nation of Islam as he started working with CORE and NAACP for equality



1. **What were the dates of the American Civil War, and what were the two sides fighting over?**
2. **What was "sharecropping," and why did many freed slaves enter into it after 1865?**
3. **Explain the concept of "Segregation" as it existed in America by 1950.**
4. **Name two methods mentioned in the organiser that were used to stop African Americans from voting.**
5. **What do the acronyms NAACP and CORE stand for?**
6. **Why was achieving social change difficult in the 1950s according to the note about civil rights activists?**
7. **Who was arrested on December 1st, 1955, for refusing to give up her seat on a bus?**
8. **How long did the Montgomery Bus Boycott last?**
9. **What was the significance of the "Brown vs. Topeka" (1954) court case?**
10. **By 1957, what percentage of the 6,200 schools had successfully desegregated?**
11. **What was the "Greensboro Sit-In Movement" of 1960, and where did it take place?**
12. **In 1957, which President ordered 10,000 National Guard troops to Central High School to ensure students could enter?**
13. **Why was the event at Central High in Little Rock considered significant?**
14. **Who founded the SNCC (Student Non-Violent Committee)?**
15. **In what month and year did Martin Luther King Jr. deliver his famous "I have a Dream" speech?**
16. **Name two things the "Black Power" movement demanded or provided for their communities.**
17. **What was the "KKK" (Ku Klux Klan), and what methods did they use against African Americans?**
18. **According to the section on Malcolm X, what was his early philosophy regarding the state of African Americans?**
19. **What event caused Malcolm X to change his mind on separatism in 1964?**
20. **Name one political group or type of person listed under "Opposition to the Civil Rights Movement."**

## Key terms

**Conflict** - a serious disagreement or argument

**Peace**- a state or period in which there is no war or a war has ended.

**Justice**- Just behaviour/treatment through the quality of fairness

**War**- a state of armed conflict between different countries or different groups within a country.

**Civilians**- a person who is not involved in the armed service

**Retaliation**- the action of harming someone, or seeking revenge

**Greed** – a selfish desire to want something,

**WMDs**- Weapons of mass destruction

**Hiroshima**- On Monday 6th August 1945, during WWII, America dropped the first atomic bomb over the Japanese city of Hiroshima

**Pacifism**- The belief that all war and violence are unjustifiable

**Sanctity of life**- The religious belief that all life is sacred and holy, as life is God given

**Ahimsa**- Hindu/Buddhist term to respect all living things and avoid violence towards others- linked with the first moral precept 'do not harm'

**Conscientious objector**- A person who refuses to fight in a war for religious or moral reasons.

**Quakers**- a member of the Religious society of friends, a Christian denomination, following the teaching of peaceful principles.

## Year 9 term 1- Is religion a source of peace?

### To explain why wars are fought.

What is war?

War is an organised conflict usually consisting of intense violence carried out by one state or states against another state or states.

What are the causes of conflict?

The causes of any war are complex. Wars are rarely about just one thing. They can be declared when a state or states act to: attack or invade another state, to gain territory or resources, resist such an attack or invasion by an aggressor, protect another state from attack by an aggressor, impose domination or political change on another state, or to resist such domination. War can also occur internally within a state between organised groups. **This is known as civil war.**

<https://www.bbc.com/bitesize/guides/zbygixs/revision/1>

### To explain religious views on pacifism

Pacifists reject all violence. They do not think that conflict should be dealt with by resorting to war. They think that other peaceful methods should be used. In the Gospel of Matthew, Jesus said: Blessed are the peacemakers: for they shall be called the children of God. Pacifists also use the teaching in the Ten Commandments to justify their position. In Exodus it says: Do not murder. Martin Luther King was a Pacifists who used methods of nonviolence; speeches, marches, bus boycotts.

The Five Precepts are moral guides that all Buddhists try to follow in order to minimise desires and reach enlightenment. The first of these Precepts is to abstain from taking life. Killing or harming human beings is therefore clearly problematic for Buddhists. Because of this, some Buddhists would not rise to an attack or to any conflict with violence.

For many, Hinduism is a religion which follows pacifist principles because there are clear reasons to lead a non-violent lifestyle, they believe in the concept of ahimsa

<https://www.bbc.com/bitesize/guides/zvfbwmn/revision/7>

good merit is built up by avoiding violence

all living things are believed to have equal worth and should not be harmed

### To explain Christian attitudes towards the reason for war

In the Old Testament, people are sometimes commanded by God to go to war. In Deuteronomy, Joshua and Judges, God often tells his people to fight and destroy foreign tribes to gain the Promised Land (Israel).

• "The lord your God will drive out those nations before you."

Deuteronomy 7:22-24 The Old Testament Prophet, Joel, tells the people that God wants them to go and fight,

• "Prepare for war! Rouse the warriors! Let all the fighting men drawn near and attack." Joel 3:9-10

• "The Lord is a warrior." Exodus 15:3

• "There is a time for killing, and a time for healing, a time for war, and a time for peace." Ecclesiastes 3:2-8

Christians use these quotes in a discussion about war and the use of violence to show that there are times when war is justified. God cannot be totally opposed to war in all circumstances.

### To investigate arguments around WMDs

Weapons of mass destruction (WMDs) are weapons that can kill a large number of people causing great damage to the environment. Examples include nuclear weapons (bombs using radioactive material); biological weapons (weapons infecting people with disease) and chemical weapons that burn people. Some people support the right to have these saying that they keep peace as countries will not attack other countries if they have got nuclear weapons. Many people are against them as they result in civilian casualties and lasting environmental impact. They could even destroy the world. Many people say that since they are bound to kill civilians using them would mean that a just war would no longer be possible. <https://www.bbc.com/bitesize/guides/zbygixs/revision/3>



Note: All figures are estimates as exact numbers are secret

Key terms

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Justice-

War-

Civilians-

Retaliation-

Greed -

WMDs-

Hiroshima-

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### Key terms:

Natural/moral evil, free will, judgement, predetermination, omniscience, omnibenevolence, original sin, dharma, karma, samsara, moksha, inconsistent triad

### Islamic response to evil and suffering:

The 2 main sects of Islam are Sunni and Shi'a

Both Sunni and Shi'a Muslims believe in predestination and a day of judgement.

Predestination refers to the idea that God knows all the choices you will make in your life but does not choose them for you.

Muslims do believe humans have free will, but think that God can intervene in your life at any point.

Muslims believe that evil and suffering have a purpose in the world. Primarily, suffering is present as a test. Muslims that endure and are patient will be rewarded in the afterlife.

Muslims can seek guidance for how to live their lives from the Qur'an. Additionally, the Sunnah and the Hadith which contain the actions and the sayings of the prophet Muhammad can also help in guiding Muslims to live a good life in accordance to Allah's laws.

## Year 9 Evil and suffering

### Explain the Christian response to evil and suffering.

God created Adam and Eve and gave them the gift of free will to choose whether they do right or wrong.

God created a paradise for them to live in and gave them only one command, to not eat from the tree of knowledge.

Satan tempts Eve to eat from the tree, who then convinces Adam.

Sin and suffering were brought into the world by Adam and Eve when they ate from the tree of knowledge ('The fall'/original sin').

St Irenaeus argued that some evil is necessary in the world to help humans develop and grow as people.

Many argue without evil we would not know good. (we need that contrast).

### Hindu beliefs surrounding evil and suffering

Hindus believe in the concept of Dharma which refers to the cosmic law or 'right way of living'

Hindus also believe in reincarnation which is known as the cycle of Samsara

A Hindu's main goal is to break this continuous cycle and achieve Moksha where they are reunited with Brahman (the ultimate reality)

Hindus can be reincarnated into a higher being e.g. better off human or a lower being e.g. an animal depending on how their life has been led and the Karma they acquire.

Karma can be compared to a cosmic point system.

Positive and negative karma can be earned through good or bad actions.

Good acts may include looking after humans, animals and the rest of the environment.

The term Maya, refers to the illusion of the world we live in.

Hindus may seek assistance and blessings from deities through devotion.

To explain the difference between natural and moral evil, give examples of both and state various religious responses to each.

**moral evil** – acts of humans which are considered to be morally wrong, e.g. murder and theft.

**natural evil** – events that cause suffering in which humans have no control over e.g. earthquakes and tsunamis.

Events of natural and moral evil may occur as a result of one another. For example, a hurricane (moral evil) may cause lots of destruction which may then lead to looting (moral evil) as a result.

The Abrahamic religions (Judaism, Christianity and Islam) agree that while God created the world, he is not directly responsible for the evil that occurs within it.

### Deontological and Teleological ethics

Deontological ethics - an ethical way of thinking that prioritises putting duty and principle above result and outcome. When making decisions the individual should be questioning whether the act itself is wrong regardless of the outcome it achieves.

Teleological ethics - prioritises looking at each situation and considering potential outcomes that could come about by different actions taken, then choosing the act that would bring about the most desired result.

Deontology holds strength in its ease of understanding and application. E.g. a young child can be told that stealing is always wrong, removing the need for any complex ethical reasoning that they may not be capable of yet.

Teleology holds strength in its flexibility and understanding that life is not always black and white. Removing 'absolutes' and any potential moral

### Key terms:

Natural/moral evil, free will, judgement, predetermination, omniscience, omnibenevolence, original sin, dharma, karma, samsara, moksha, inconsistent triad

### Islamic response to evil and suffering:

The 2 main sects of Islam are \_\_\_\_\_

Both \_\_\_\_\_ Muslims believe in \_\_\_\_\_ and a day of judgement.

\_\_\_\_\_ refers to the idea that God knows all the choices you will make in your life but does not choose them for you.

Muslims do believe humans have \_\_\_\_\_, but think that God can intervene in your life at any point.

Muslims believe that evil and suffering have a purpose in the world. Primarily, suffering is present as \_\_\_\_\_. Muslims that endure and are patient will be rewarded in the \_\_\_\_\_.

Muslims can seek guidance for how to live their lives from the \_\_\_\_\_. Additionally, the Sunnah and the Hadith which contain the actions and the sayings of the prophet Muhammad can also help in guiding Muslims to live a good life in accordance to Allah's laws.

### Year 9 Evil and suffering

#### Explain the Christian response to evil and suffering.

God created \_\_\_\_\_ and gave them the gift of \_\_\_\_\_ to choose whether they do right or wrong.

God created a paradise for them to live in and gave them only one command, to not eat from the tree of knowledge.

\_\_\_\_\_ tempts Eve to eat from the tree, who then convinces Adam.

Sin and suffering were brought into the world by Adam and Eve when they ate from the \_\_\_\_\_ ('The fall'/original sin').

St Irenaeus argued that some evil is necessary in the world to help humans develop and grow as people.

#### Hindu beliefs surrounding evil and suffering

Hindus believe in the concept of \_\_\_\_\_ which refers to the cosmic law or 'right way of living'

Hindus also believe in reincarnation which is known as the cycle of \_\_\_\_\_

A Hindu's main goal is to break this continuous cycle and achieve \_\_\_\_\_ where they are reunited with Brahman (the ultimate reality)

Hindus can be \_\_\_\_\_ into a higher being e.g. better off human or a lower being e.g. an animal depending on how their life has been led and the Karma they acquire.

Karma can be compared to a cosmic point system.

Positive and negative \_\_\_\_\_ can be earned through good or bad actions.

Good acts may include looking after humans, animals and the rest of the environment.

The term \_\_\_\_\_, refers to the illusion of the world we live in.

Hindus may boost seek assistance and blessings from deities through devotion.

To explain the difference between natural and moral evil, give examples of both and state various religious responses to each.

\_\_\_\_\_ – acts of humans which are considered to be morally wrong, eg murder and theft.

\_\_\_\_\_ – events that cause suffering in which humans have no control over e.g. earthquakes and tsunamis.

Events of natural and moral evil may occur as a result of one another. For example, a hurricane (moral evil) may cause lots of destruction which may then lead to looting (moral evil) as a result.

The Abrahamic religions (Judaism, Christianity and Islam) agree that while God created the world, he is not directly responsible for the evil that occurs within it.

#### Deontological and Teleological ethics

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\_\_\_\_\_ - prioritises looking at each situation and considering potential outcomes that could come about by different actions taken, then choosing the act that would bring about the most desired result.

Deontology holds strength in its ease of \_\_\_\_\_ and application. E.g. a young child can be told that stealing is always wrong, removing the need for any complex ethical reasoning that they may not be capable of yet.

Teleology holds strength in its \_\_\_\_\_ and understanding that life is not always black and white. Removing 'absolutes' and any potential moral

# YEAR 9 FRENCH KNOWLEDGE ORGANISER

## Term 2 - Sentence Builder 5

what concerns me	<b>ce qui me préoccupe</b>	unemployment	<b>le chômage</b>
what worries me the most	<b>ce qui m'inquiète le plus</b>	hunger	<b>la faim</b>
is above all	<b>c'est d'abord</b>	the environment	<b>l'environnement</b>

the lack of fresh water	<b>le manque d'eau douce</b>
pollution of the beaches	<b>la pollution des plages</b>
noise pollution	<b>la pollution sonore</b>
the destruction of the forests/ woods	<b>la destruction des forêts/des bois</b>
animal cruelty	<b>la cruauté envers les animaux</b>
the state of the Earth/the world	<b>l'état de la Terre/du monde</b>
climate change	<b>le changement climatique</b>

in my region	<b>dans ma région</b>
in summer	<b>en été</b>
in winter	<b>en hiver</b>
in spring	<b>au printemps</b>
in autumn	<b>en automne</b>

it is... (it does)	<b>il fait...</b>
nice/bad weather	<b>beau /mauvais</b>
hot/cold	<b>chaud /froid</b>
it rains	<b>il pleut</b>
it snows	<b>il neige</b>

it is...(there is)	<b>il y a...</b>
sunny	<b>du soleil</b>
windy	<b>du vent</b>
foggy	<b>du brouillard</b>

always	<b>toujours</b>
all the time	<b>tout le temps</b>
sometimes	<b>quelquefois</b>
rarely	<b>rarement</b>

### Practice Translations

What worries me the most is above all the pollution of beaches	
What concerns me is the environment and the destruction of the woods	
in my region in summer it's always hot and it rarely rains	
What worries me the most is animal cruelty and unemployment	
in my region in spring it's foggy all the time and it's cold	

# YEAR 9 FRENCH KNOWLEDGE ORGANISER

## Term 2 - Sentence Builder 5

what concerns me		unemployment	
what worries me the most		hunger	
is above all		the environment	

the lack of fresh water	
pollution of the beaches	
noise pollution	
the destruction of the forests/ woods	
animal cruelty	
the state of the Earth/the world	
climate change	

in my region	
in summer	
in winter	
in spring	
in autumn	

it is... (it does)	
nice/bad weather	
hot/cold	
it rains	
it snows	

it is...(there is)	
sunny	
windy	
foggy	

always	
all the time	
sometimes	
rarely	

### Practice Translations

What worries me the most is above all the pollution of beaches	
What concerns me is the environment and the destruction of the woods	
in my region in summer it's always hot and it rarely rains	
What worries me the most is animal cruelty and unemployment	
in my region in spring it's foggy all the time and it's cold	

# YEAR 9 FRENCH KNOWLEDGE ORGANISER

## Term 2 - Sentence Builder 6

currently	actuellement
to protect the environment	pour protéger l'environnement
to save the planet	pour sauver la planète

we must	on doit	we should	on devrait
we can	on peut	we could	on pourrait
we have to	il faut		

recycle paper/glass/plastic	recycler le papier/verre/plastique
sort the rubbish	trier les déchets
buy green products	acheter des produits verts
turn off electrical equipment/the lights	éteindre les appareils électriques/la lumière
use renewable energy	utiliser les énergies renouvelables
avoid plastic bags	éviter les sacs en plastique
avoid disposable products	éviter les produits jetables

### Practice Translations

In order to protect the environment we should avoid plastic bags	
In order to save the planet we could use renewable energy	
Currently we can switch off electrical equipment	
Also we could switch if the lights	
In order to save the environment, we have to recycle glass, paper and plastic	

# YEAR 9 FRENCH KNOWLEDGE ORGANISER

## Term 2 - Sentence Builder 6

currently	
to protect the environment	
to save the planet	

we must		we should	
we can		we could	
we have to			

recycle paper/glass/plastic	
sort the rubbish	
buy green products	
turn off electrical equipment/the lights	
use renewable energy	
avoid plastic bags	
avoid disposable products	

### Practice Translations

In order to protect the environment we should avoid plastic bags	
In order to save the planet we could use renewable energy	
Currently we can switch off electrical equipment	
Also we could switch if the lights	
In order to save the environment, we have to recycle glass, paper and plastic	

# YEAR 9 FRENCH KNOWLEDGE ORGANISER

## Term 2 - Sentence Builder 7

Every evening	Tous les soirs
Often	Souvent
twice a week	deux fois par semaine

in order to...	pour...
download songs	télécharger des chansons
listen to music	écouter de la musique

I think that	je pense que
In my opinion	à mon avis
I would say that	je dirais que

it's easy	il est facile de (d')
it's important	il est important de (d')
it's possible	il est possible de (d')
it's dangerous	il est dangereux de (d')
(to) not	...ne pas

I use	j'utilise
my computer	mon ordinateur
my phone	mon portable
social media	les réseaux sociaux
my laptop	mon ordinateur portable

do my homework	faire mes devoirs
look for ideas/info	chercher des idées/informations

on one's mobile	sur son portable
on social media	sur les réseaux sociaux

to do research for homework	faire des recherches pour ses devoirs
to learn lots of things	apprendre beaucoup de choses
to share photos	partager des photos
to stay in contact	rester en contact
to make purchases	faire des achats
to chat online with strangers	tchatter en ligne avec des inconnus

### Practice Translations

Every evening I use my phone to download songs	
From time to time I use my laptop to do my homework	
Often I use social media to look for ideas	
I think that on the internet it's easy to make purchases	
In my opinion on social media it's dangerous to share photos	

# YEAR 9 FRENCH KNOWLEDGE ORGANISER

## Term 2 - Sentence Builder 7

Every evening	
Often	
twice a week	

in order to...	
download songs	
listen to music	

I think that	
In my opinion	
I would say that	

it's easy	
it's important	
it's possible	
it's dangerous	
(to) not	

I use	
my computer	
my phone	
social media	
my laptop	

do my homework	
look for ideas/info	

on one's mobile	
on social media	

to do research for homework	
to learn lots of things	
to share photos	
to stay in contact	
to make purchases	
to chat online with strangers	

### Practice Translations

Every evening I use my phone to download songs	
From time to time I use my laptop to do my homework	
Often I use social media to look for ideas	
I think that on the internet it's easy to make purchases	
In my opinion on social media it's dangerous to share photos	

# YEAR 9 FRENCH KNOWLEDGE ORGANISER

## Term 2 - Sentence Builder 8

I play	je joue
video games	à des jeux-vidéo
on my console	sur ma console

I buy	j'achète
clothes	des vêtements
online	en ligne

I listen	j'écoute
I download	je télécharge
to songs	des chansons
on my headphones	sur mes écouteurs

I watch	je regarde
I share	Je partage
selfies	des selfies
I talk	je parle
with my friend	avec mon ami

I send	j'envoie
messages	des messages
to my friends	à mes copains et copines

I spend	je passe
a lot of time	beaucoup de temps
too much time	trop de temps
on social media	sur les réseaux sociaux

I look for	je cherche
ideas	des idées

I do that...	je fais ça...
sometimes	parfois
every day	tous les jours

all the time	tout le temps
from time to time	de temps en temps

### Practice Translations

I download songs on my phone, I do that all the time	
I send messages to my friends every evening	
I buy clothes online, I do that from time to time	
I spend too much time on social media every day	
I share photos with my friends I do that often	

# YEAR 9 FRENCH KNOWLEDGE ORGANISER

## Term 2 - Sentence Builder 8

I play	
video games	
on my console	

I buy	
clothes	
online	

I listen	
I download	
to songs	
on my headphones	

I watch	
I share	
selfies	
I talk	
with my friend	

I send	
messages	
to my friends	

I spend	
a lot of time	
too much time	
on social media	

I look for	
ideas	

I do that...	
sometimes	
every day	

all the time	
from time to time	

### Practice Translations

I download songs on my phone, I do that all the time	
I send messages to my friends every evening	
I buy clothes online, I do that from time to time	
I spend too much time on social media every day	
I share photos with my friends I do that often	

# YEAR 9 FRENCH KNOWLEDGE ORGANISER

## Term 3 - Sentence Builder 9

in the past	<b>dans le passé</b>
récemment	<b>recently</b>
quand j'étais plus jeune	<b>when I was younger</b>
...worked as	<b>a travaillé comme</b>

now	<b>maintenant</b>
at the moment	<b>en ce moment</b>
currently	<b>actuellement</b>
...work as	<b>...travaille comme</b>

my brother	<b>mon frère</b>
my step-father	<b>mon beau-père</b>
my uncle	<b>mon oncle</b>

my sister	<b>ma soeur</b>
my step-mother	<b>ma belle-mère</b>
my aunt	<b>ma tante</b>

police officer (masculine)	<b>policier</b>
nurse	<b>infirmier</b>
hairdresser	<b>coiffeur</b>
waiter	<b>serveur</b>
sale assistant	<b>vendeur</b>
boss	<b>patron</b>

police officer (feminine)	<b>policière</b>
nurse	<b>infirmière</b>
hairdresser	<b>coiffeuse</b>
waiter	<b>serveuse</b>
sale assistant	<b>vendeuse</b>
boss	<b>patronne</b>

in an office	<b>dans un bureau</b>
in a police station	<b>dans un commissariat</b>
in a team	<b>dans une équipe</b>

in a post office	<b>dans une poste</b>
in a business	<b>dans une entreprise</b>
in a 6 <sup>th</sup> form/college	<b>dans un lycée</b>

### Practice Translations

When I was younger, my father worked as a police officer in a police station	
Currently, my aunt works as a teacher in a 6 <sup>th</sup> form	
Now my sister works as a boss in a business	
Recently my brother worked as a sale assistant in a supermarket	
At the moment, my mother works as a hairdresser.	

# YEAR 9 FRENCH KNOWLEDGE ORGANISER

## Term 3 - Sentence Builder 9

in the past	
récemment	
quand j'étais plus jeune	
...worked as	

now	
at the moment	
currently	
...work as	

my brother	
my step-father	
my uncle	

my sister	
my step-mother	
my aunt	

police officer (masculine)	
nurse	
hairdresser	
waiter	
sale assistant	
boss	

police officer (feminine)	
nurse	
hairdresser	
waiter	
sale assistant	
boss	

in an office	
in a police station	
in a team	

in a post office	
in a business	
in a 6 <sup>th</sup> form/college	

### Practice Translations

When I was younger, my father worked as a police officer in a police station	
Currently, my aunt works as a teacher in a 6 <sup>th</sup> form	
Now my sister works as a boss in a business	
Recently my brother worked as a sale assistant in a supermarket	
At the moment, my mother works as a hairdresser.	

# YEAR 9 SPANISH KNOWLEDGE ORGANISER

## Term 1 – Sentence Builder 5

The best thing was when	<b>Lo mejor fue cuando</b>	I went to the aquarium	<b>fui al acuario</b>
The good thing was when	<b>Lo bueno fue cuando</b>	I visited Park Guell	<b>visité el Park Güell</b>
		I learnt to do sailing	<b>aprendí a hacer vela</b>
		I saw a match at Nou Camp	<b>vi un Partido en el Camp Nou</b>
The worst thing was when	<b>Lo peor fue cuando</b>	I lost my phone	<b>perdí mi móvil</b>
The bad thing was when	<b>Lo malo fue cuando</b>	I had an accident	<b>tuve un accidente</b>
		I vomited on a rollercoaster	<b>vomitó en una montaña rusa</b>
		I arrived late at the airport	<b>llegué tarde al aeropuerto</b>
The good thing about the town was	<b>Lo bueno del pueblo era que</b>	there was/were	<b>había</b>
The bad thing about the city was	<b>Lo malo de la ciudad era que</b>	it had	<b>tenía</b>
		it was	<b>era</b>
a lot of	<b>mucho/a/os/as</b>	atmosphere	<b>ambiente</b>
very	<b>muy</b>	pollution	<b>contaminación</b>
a bit	<b>un poco</b>	people	<b>gente</b>
		lively	<b>animado</b>
		noisy	<b>ruidoso</b>

### Practice Translations

The best thing was when I went to the beach	
The worst thing was when I lost my phone in the city centre	
The good thing about the town was that...	
...there was lots of atmosphere and it was lively	
The bad thing was that it had lots of people and it was very noisy	



# YEAR 9 SPANISH KNOWLEDGE ORGANISER

## QUIZ – Sentence Builder 5

The best thing was when		I went to the aquarium	
The good thing was when		I visited Park Guell	
		I learnt to do sailing	
		I saw a match at Nou Camp	
The worst thing was when		I lost my phone	
The bad thing was when		I had an accident	
		I vomited on a rollercoaster	
		I arrived late at the airport	
The good thing about the town was		there was/were	
The bad thing about the city was		it had	
		it was	
a lot of		atmosphere	
very		pollution	
a bit		people	
		lively	
		noisy	

### Practice Translations

The best thing was when I went to the beach	
The worst thing was when I lost my phone in the city centre	
The good thing about the town was that...	
...there was lots of atmosphere and it was lively	
The bad thing was that it had lots of people and it was very noisy	



# YEAR 9 Spanish KNOWLEDGE ORGANISER

## Term 2 – Sentence Builder 6

I think that	<b>Pienso que</b>
In my opinion	<b>En mi opinión</b>
I think (believe) that	<b>Creo que</b>
I would say that	<b>Diría que</b>
In my opinion (according to me)	<b>Según yo</b>

racism	<b>el racismo</b>
hunger	<b>el hambre</b>
the environment	<b>el medio ambiente</b>
climate change	<b>el cambio climático</b>
the state of the planet	<b>el estado del planeta</b>

What concerns me	<b>Lo que me preocupa</b>
What worries me the most	<b>Lo que más me preocupa</b>
is	<b>es</b>
are	<b>son</b>

pollution	<b>la polución</b>
health	<b>la salud</b>
animals in danger of extinction	<b>los animales en peligro de extinción</b>

In my region	<b>en mi región</b>
the sky is clear	<b>el cielo está despejado</b>
the climate is mild	<b>el clima es templado</b>

in summer	<b>en verano</b>
in winter	<b>en invierno</b>
in autumn	<b>en otoño</b>
in spring	<b>en primavera</b>

The weather is nice	<b>Hace buen tiempo</b>
The weather is bad	<b>Hace mal tiempo</b>
It is hot	<b>Hace calor</b>
It is cold	<b>Hace frío</b>

there is snow	<b>hay nieve</b>
there are clouds	<b>hay nubes</b>
it rains a lot	<b>llueve mucho</b>

### Practice Translations

In my region the weather is good and the sky is clear	
What concerns me the most is the environment	
In my opinion I would say that it is hot but there are clouds	
In my region what concerns me is climate change and pollution	
In spring the weather is cold and it rains a lot	

# YEAR 9 SPANISH KNOWLEDGE ORGANISER

## Term 2 – Sentence Builder 6

I think (believe) that	
I would say that	
In my opinion (according to me)	
in winter	
in autumn	
in spring	

What concerns me
What worries me the most
Is the environment
Is climate change
Is the state of the planet
Is health

In my region
the sky is clear
the climate is mild

there is snow	
there are clouds	
it rains a lot	

The weather is nice
The weather is bad
It is hot
It is cold

### Practice Translations

In my region the weather is bad and it is cold	
What worries me is the pollution	
I think that it is hot but there are clouds	
In my region what concerns me are the animals in danger of extinction	
In spring the climate is good	

# YEAR 9 SPANISH KNOWLEDGE ORGANISER

## Term 2 – Sentence Builder 7

During the week	<b>durante la semana</b>
at the weekend	<b>los fines de semana</b>
todos los días	<b>every day</b>

I use	<b>uso</b>
my computer	<b>mi ordenador</b>
my laptop portátil	<b>mi ordenador portátil</b>
my phone	<b>mi móvil</b>

listen to music	<b>escuchar música</b>
watch shows	<b>ver programas</b>
publish photos	<b>publicar fotos</b>
upload videos	<b>subir videos</b>

I use	<b>uso</b>
I watch	<b>veo</b>
I listen	<b>escucho</b>

every evening	<b>cada noche</b>
every day	<b>cada día</b>
twice a week	<b>dos veces a la semana</b>
it is dangerous it is easy	<b>es peligroso es fácil</b>

my games console	<b>mi videoconsola</b>
my tablet	<b>mi tableta</b>
social media	<b>las redes sociales</b>
online	<b>en línea</b>

In order to	<b>para</b>
do homework	<b>hacer los deberes</b>
send messages	<b>mandar mensajes</b>
play video games	<b>jugar a los videojuegos</b>
look for information	<b>buscar información</b>

### Practice Translations

I would say that on the phone it is easy to share photos	
In my opinion it is dangerous to share personal details online	
Twice a week I use my games console to play games	
Every day I use my laptop to do homework	
Every evening I listen to music and I watch shows	

# YEAR 9 SPANISH KNOWLEDGE ORGANISER

## Term 2 – Sentence Builder 7

every evening
every day
twice a week
it is dangerous it is easy

I use
my computer
my laptop portátil
my phone

listen to music
watch shows
publish photos
upload videos

my games console	
my tablet	
social media	
online	

my games console
my tablet
social media
online

In order to
do homework
send messages
play video games
look for information

### Practice Translations

my favourite celebrity is an influencer (f.)	
She inspires me because she participated in lots of protests	
I can identify with her because she is self confident	
He inspires me because he fought for peace	
I can identify with him because he is in a wheelchair	

# YEAR 9 SPANISH KNOWLEDGE ORGANISER

## Term 2 – Sentence Builder 8

I play	<b>juego</b>
I upload	<b>subo</b>
I chat	<b>chateo</b>
I share	<b>comparto</b>
also	<b>también</b>
but	<b>pero</b>
in addition	<b>además</b>
however	<b>sin embargo</b>
mañana voy a...	<b>tomorrow I am going to....</b>

I share	<b>comparto</b>
I watch	<b>veo</b>
I listen	<b>escucho</b>
on the app	<b>en la aplicación</b>
With my friend	<b>con mi(s) amiga/o</b>
With my friends	<b>con mis amigos</b>

on my games console	<b>en mi videoconsola</b>
on my tablet	<b>en mi tableta</b>
on my phone	<b>en mi móvil</b>
on my computer	<b>en mi ordenador</b>
on my laptop	<b>en mi portátil</b>

<i>I do it...</i>	<i>lo hago....</i>
from time to time	<b>de vez en cuando</b>
all the time	<b>todo el tiempo</b>
todos los fines de semana	<b>every weekend</b>
a menudo	<b>often</b>
every day	<b>cada día</b>

music	<b>música</b>
online games	<b>a los juegos en línea</b>
my favorite band	<b>mi banda favorita</b>
TikTok videos	<b>Videos en TikTok</b>

### Practice Translations

I play online games all the time	
I upload TikTok videos on social media every day	
I watch photos with my friends, I do it from time to time	
However I don't share personal details	
Tomorrow I am going to listen to my favorite band on my phone	

# YEAR 9 SPANISH KNOWLEDGE ORGANISER

## Term 3 – Sentence Builder 9

now	ahora
at the moment	en este momento
currently	actualmente

Works <u>as</u>	Trabaja <u>como</u>
Worked <u>as</u>	Trabajó <u>como</u>
in a police station	en una comisaría
in an office	en una oficina
in a school	en un colegio
in a restaurant	en un restaurante
en un hospital	en un hospital

In the past	en el pasado
recently	recientemente
when I was younger	cuando era más joven
before	antes

nurse	enfermero/a
waiter	camarero
boss	jefe/a
cook/chef	cocinero/a

My wife	mi mujer
my husband	mi marido
my uncle/auntie	mi tío/a

my dad	mi padre
my stepdad	mi padrastro
my mum	mi madre
my stepmum	mi madrastra
my brother	mi hermano
my sister	mi hermana
my cousin	mi prima/o
my grandad	mi abuelo
my grandma	mi abuela
my son/daughter	mi hijo/a

mechanic	mecánico/a
police officer	policía
journalist	periodista
teacher	profesor
actor	actor
actress	actriz

### Practice Translations

Currently my dad works as a chef in a restaurant	
Now my stepmum works as a teacher in a school	
Recently my cousin (f) worked as a police officer in a police station	
In the past my grandad worked as a journalist in an office	
When I was younger, my aunty worked as a nurse in a hospital	

# YEAR 9 SPANISH KNOWLEDGE ORGANISER

## Term 2 – Sentence Builder 9

I think that	
In my opinion	
I think (believe) that	
I would say that	
In my opinion (according to me)	

also	
in addition	
however	
but	

Now my brother	
currently my sister	
at this moment my uncle	
When I was younger	
my cousin (m)	
worked as	

he/she works as	
he/she worked as	
a nurse (f)	
a police officer	
a waiter	
a teacher	
a boss (m)	
an actor	

my wife works as	
my husband works as	
my step sister works as	

In a police station	
In an office	
In a school	

### Practice Translations

At this moment my daughter works as a boss in an office	
Recently my son worked as a mechanic in a garage ( <i>garage</i> )	
When I was younger my dad worked as a waiter in a restaurant ( <i>restaurante</i> )	
Before, my step dad worked as a teacher	
In the future I am going to study	

# Year 9 Food & Nutrition Knowledge Organiser (Summer Term)

## Food Provenance

- **Definition:** Where food comes from, including the farm, country, or supplier.
- **Key Points:**
  - Local vs imported foods
  - Seasonal foods
  - Traceability: tracking food from “farm to fork”
- **Examples:**
  - Local apples = UK grown
  - Imported bananas = Brazil
- **Tip:** Knowing provenance helps with **quality, sustainability, and ethical choices.**

1. Define “food provenance”.
2. Give **two examples** of local foods in the UK.
3. Why is it important to know where your food comes from?
4. What does “traceability” mean in relation to food?
5. Which is more sustainable: imported strawberries in winter or locally grown vegetables in season? Explain why.

## Seasons, Food Miles & Carbon Footprint

- **Seasons:** Foods grow naturally at different times.
  - UK strawberries → Spring/Summer
  - Pumpkins → Autumn
- **Food Miles:** Distance food travels from production to your plate.
  - Local food = fewer food miles
  - Imported food = higher food miles
- **Carbon Footprint:** Measures environmental impact (CO<sub>2</sub> emissions) of producing and transporting food.
- **Tips:**
  - Reduce food miles → buy local & seasonal
  - Reduce carbon footprint → eat plant-based, avoid air-freighted foods



# Year 9 Food & Nutrition Knowledge Organiser (Summer Term)

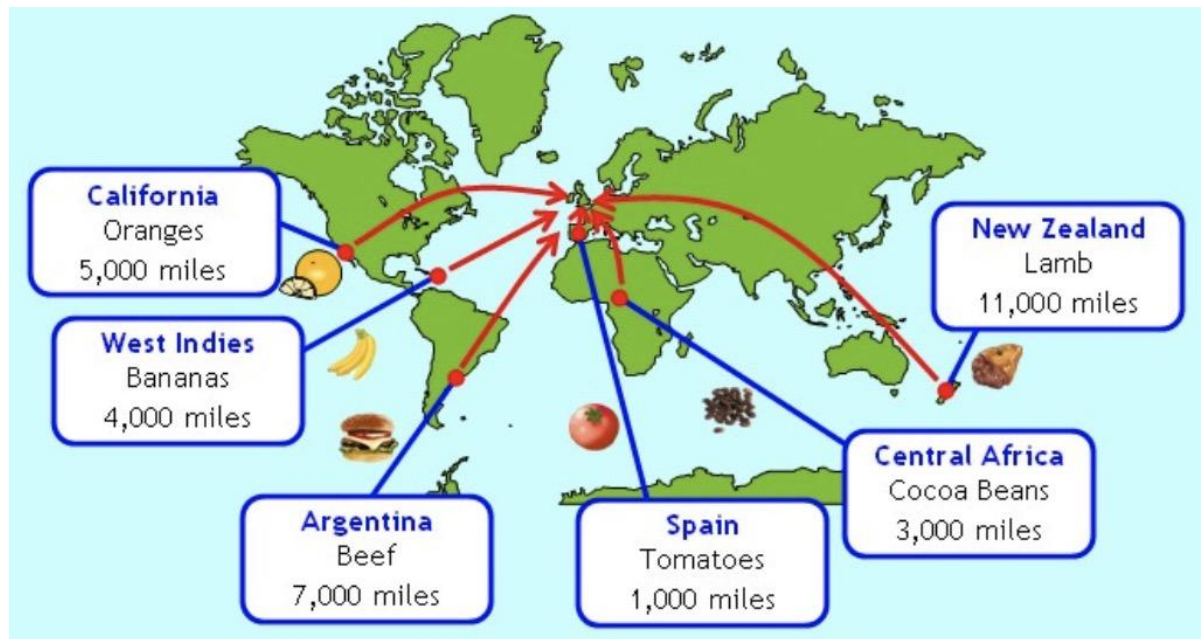
## Food Provenance

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  - .....
  - .....
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## Seasons, Food Miles & Carbon Footprint

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- **Tips:**
  - Reduce food miles → buy.....
  - Reduce carbon footprint → .....



## Presentation skills

- **Definition:** Making food look attractive and appetising
- **Key Tips:**
  - Colour contrast (e.g., green veg on white plate)
  - Garnishing → decorative touches (herbs, sauces)
  - Portion control → right amount on the plate
  - Clean edges & neat layout

## Cooking methods & techniques

- **Dry Heat:** Roasting, grilling, baking
- **Moist Heat:** Boiling, steaming, poaching, simmering
- **Frying:** Deep frying, shallow frying, sautéing
- **Other Techniques:**
  - Kneading → developing gluten in dough
  - Sautéing → cooking quickly in small oil
  - Steaming → retains nutrients
- **Tips:**
  - Steaming & boiling = healthiest
  - Roasting/grilling = tasty but watch fat

## Catering & the law

- **Food Safety & Hygiene:**
  - Wash hands before handling food
  - Keep raw and cooked foods separate
  - Maintain correct fridge temperatures ( $\leq 5^{\circ}\text{C}$ )
  - Avoid cross-contamination (bacteria spread from one food to another)
- **Legislation:** Laws protect consumers and ensure safe, high-quality food

1. Name **three dry heat cooking methods**.
2. Name **three moist heat cooking methods**.
3. What is sautéing?
4. Explain what “kneading” does to dough.
5. Which cooking method is healthiest: deep frying, steaming, or roasting with lots of oil?
6. What does simmering mean?



Steaming



Boiling



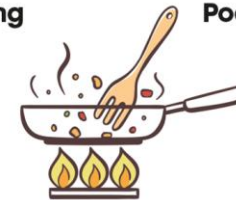
Poaching



Grilling



Roasting/Baking



Stir-frying/Sautéing



Stewing/Braising

1. Define the catering industry.
2. Name **two roles** in a restaurant and their main responsibilities.
3. Give **two examples** of catering businesses.
4. What is front-of-house staff responsible for?

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  - .....
  - .....
  - .....

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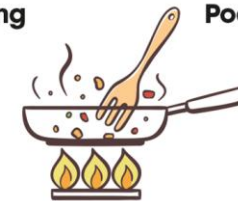
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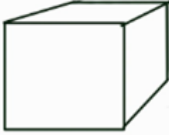
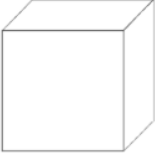
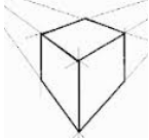
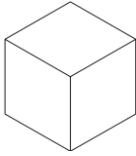

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2. Name **two roles** in a restaurant and their main responsibilities.
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**Design and Technology Year 9 - Knowledge organiser**

**Knowledge of Plastics**

<b>Thermosetting Plastic</b>	<b>Thermoforming Plastic</b>
<p>Thermosetting plastics are <b>more rigid</b>, they are <b>highly resistant to heat</b> which makes them suitable for electrical parts and pan handles. They are often cast into shapes from a liquid mix which hardens and cannot be reformed:</p>	<p>Thermoforming plastics generally <b>make the bendy types</b> of plastic, they <b>aren't very resistant to heat</b> so can be melted easily. They are <b>easy to recycle</b> by grinding them down into pellets and reforming them:</p>
<p><b>Melamine:</b> Camping plates, worktops.  <b>Epoxy resin:</b> A two part resin and hardener that sets when mixed, Araldite glue, casting resin.  <b>Phenol formaldehyde:</b> Pan handles, bottle tops.  <b>Urea formaldehyde:</b> Plug sockets, electrical switches, door handles.  <b>Polyester resin:</b> Car bodies, boats.</p>	<p><b>Polythene HDPE (high density):</b> Milk crates, buckets, plates.  <b>Polythene LDPE (low density):</b> Food packaging, carrier bags, washing up and shampoo bottles.  <b>Polypropylene PP:</b> Syringes, reusable food containers.  <b>High impact polystyrene HIPS:</b> Casing on vacuum cleaners, radios etc  <b>Nylon:</b> Hinges, combs, clothes.  <b>Polyvinyl chloride PVC:</b> Pipes, shoe soles, tablet packaging  <b>Acrylic (Perspex):</b> Baths, machine guards.</p>

**Drawing Techniques used in DT**

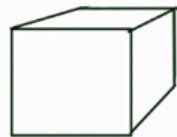
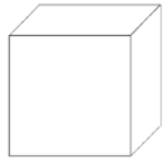
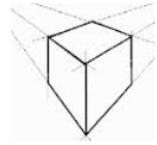
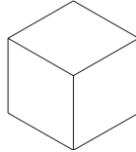
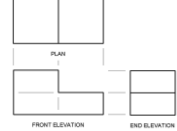
	<p><b>1 Point perspective</b>            Will have 1 vanishing point where 1 side of the object will get smaller as it goes towards the vanishing point</p>
	<p><b>Oblique</b>            Will have a 45 degree angle. The oblique sketching is a pictorial representation of an object, in which the diagram is intended to depict the perspective of objects in three dimensions.</p>
	<p><b>2 Point perspective</b>            Will have 2 vanishing points where both sides of the object will get smaller as it goes towards the vanishing points</p>
	<p><b>Isometric</b>            Isometric illustration is a form of 3D drawing set out using 30-degree angles. and there is no perspective.</p>
	<p><b>Orthographic Projection</b>            An orthographic projection is a way of representing a 3D object by using several 2D views of the object.</p>

**Design and Technology Year 9 - Knowledge organiser**

**Knowledge of Plastics**

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**Design and Technology Year 9 - Knowledge organiser**

<b>Finishes in DT (how to add a finish to your wood product)</b>		
<b><u>Paints</u></b>	<b><u>Undercoat</u></b>	Undercoat is the first coat of paint (on top of a primer if you've used one, or on old finishes if you're reusing timber). It covers up any previous colours more cheaply than applying extra layers of the final 'topcoat,' which is usually a more expensive paint. It helps later layers of paint to stick.
	<b><u>Overcoat</u></b>	Gloss paints are hardwearing and waterproof and come in lots of colours. They're shiny and used for things like interior woodwork. You apply them with a brush or roller, painting in the direction of the grain.
<b><u>Varnish</u></b>	<p>Varnish can be coloured or clear, and either gloss, matt or satin. Yacht varnish seals the wood and makes it waterproof. It's flexible so it doesn't stick if the wood moves. It's good for outdoor uses such as doors and window frames.</p> <p>Polyurethane varnish is best for interior uses such as stairs and skirting boards. It's very hard wearing and needs to be lightly sanded down between applying layers.</p>	
<b><u>Tanalising</u></b>	Wood that will be used outdoors are often treated with a wood preservative. This is called tanalising. This helps prevent insect attacks and the decay of the wood so it will last longer. Tanalised wood is used for things like outdoor playground equipment, fences and telegraph poles.	

<b>DT Key Words in y9</b>	
<b>Rendering</b>	Adding shading, texture and colour to make the object look like the material it will be made in eg woodgrain
<b>Adhesives</b>	A substance used for sticking objects or materials together; eg Epoxy resin, Synthetic resin, wood glue, PVA
<b>PVA</b>	<b>Polyvinyl acetate</b> , commonly known as wood glue, PVA glue, white glue, carpenter's glue, school glue
<b>CAD</b>	Computer Aided Design
<b>CAM</b>	Computer Aided Manufacture

**Design and Technology Year 9 - Knowledge organiser**

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<b>CAD</b>	.....
<b>CAM</b>	.....

## Computer Science Year 9 - Knowledge Organiser

### Computer Components

Name	Function
Motherboard	Connects all of the components together
Central Processing Unit (CPU)	Carries out all of the instructions / calculations
Memory (RAM)	Short-term storage used by the processor
Hard Disk Drive (HDD)	Long-term storage to save data / documents / work
Power Supply Unit (PSU)	Provide power to all of the parts of a computer

### Spreadsheet Functions:

**=sum()** Adds the values from the range together  
**=average()** Returns the mean average of the numbers in the range

**=count()** Counts the number of numbers in the range  
**=counta()** Counts all of the used cells in the range

### Python

Function	Operation
print()	Puts the contents of the brackets (the arguments) onto the console screen
input()	Stops the program and allows the user to type in a response which is stored as a string.
int()	Converts the contents of the brackets (usually a "string") to an integer e.g. <b>int(input())</b>
while	Creates a conditional iteration (loop). E.g. <b>while lives &gt; 0 :</b>
for	Creates a count-controlled iteration (loop) E.g. <b>for i = 10 :</b>
if elif else	Creates selection within a program. Each of these is followed by at least one indented line of code which will be executed if the condition is true.

## Computer Science Year 9 - Knowledge Organiser Quiz

### Computer Components

Name	Function
Motherboard	Connects all of the components together
Central Processing Unit (CPU)	Carries out all of the instructions / calculations
	Short-term storage used by the processor
	Long-term storage to save data / documents / work
Power Supply Unit (PSU)	

### Spreadsheet Functions:

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print()	Puts the contents of the brackets (the arguments) onto the console screen
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## Commedia Dell'Arte

- Commedia dell'arte began in Italy in the early 16th Century and very quickly spread across Europe.
- From the name, you might have guessed that Commedia dell'arte is a form of comedy.
- The style consists of exaggerated stock characters, masks, acrobatics and improvisation.
- In Commedia dell'arte, status is very important as it underpins the entire performance. There is always a servant/master relation, where the only way the servant can 'win' is by cheating or deceiving.
- Status: Your position or rank in relation to others
- Commedia Dell'arte, just like Pantomime and Melodrama, has its own set of stock characters. These characters appear in all the productions and they always wear the same mask to help the audience know who is who. They also have a particular way of moving.

### Masks

1. There is a specific mask for each specific character. Audiences would therefore be able to recognise each character purely by their mask
2. Masks must be put on backstage -the audience must never see the actor putting on or taking off the mask

### Commedia Dell'Arte Performances

- A Servant To Two Masters -Carlo Goldoni -Traditional
- One Man Two Guvnors -Richard Bean -Modern
- Friends -Modern for screen



### Vocal Skills

**Pitch:** Speaking in a high, low or natural voice

**Pace:** The speed in which someone speaks

**Pause:** A break in speaking, a period of silence

**Tone:** How the voice conveys emotions

**Volume:** The loudness or quietness of the voice

**Emphasis:** The exaggeration of individual words



### Physical Skills

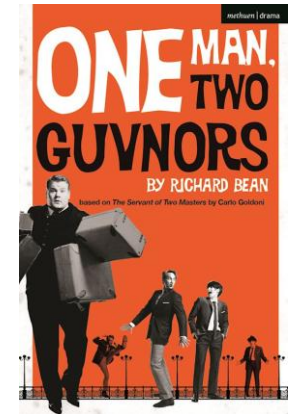
**Facial expressions:** Showing emotion with the face

**Posture:** The way someone stands or sits

**Body Language:** Open or closed to show emotion

**Gesture:** A movement with the arms/hands (wave, pointing)

**Levels:** Height -crouching, laying, stood



## Commedia Dell'Arte

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- \_\_\_\_\_ -Richard Bean -Modern
- Friends -Modern for \_\_\_\_\_



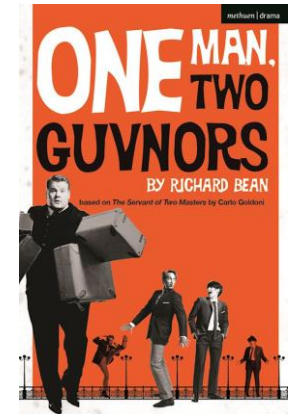
### Vocal Skills

\_\_\_\_\_ : Speaking in a high, low or natural voice  
\_\_\_\_\_ : The speed in which someone speaks  
\_\_\_\_\_ : A break in speaking, a period of silence  
**Tone:** \_\_\_\_\_  
\_\_\_\_\_ : The loudness or quietness of the voice  
**Emphasis:** \_\_\_\_\_



### Physical Skills

**Facial expressions:** \_\_\_\_\_  
\_\_\_\_\_ : The way someone stands or sits  
**Body Language:** \_\_\_\_\_ or \_\_\_\_\_ to show emotion  
\_\_\_\_\_ : A movement with the arms/hands (wave, pointing)  
\_\_\_\_\_ : Height -crouching, laying, stood



### Zanni -Servant

- The Zanni character is a buffoon or clown
- Usually hunched over through carrying heavy loads as a porter, with knees in a 'bowed' position and feet splayed apart.
- Always highly animated, waving arms and gesticulating with hands
- Some Zanni characters were known for their acrobatic feats, including handstands and flips.



### Harlequin -Servant

- Harlequins are clown characters, known for their silly behaviour and getting into trouble.
- The Harlequin is always hungry and on the hunt for food, however he can be sidetracked by a potential love interest
- The Harlequin is full of energy, doing handstands, somersaults and cartwheels.



### Brighella -Servant

- Whilst the Harlequin is known for getting into trouble, Brighella is the one to cause trouble.
- Brighella plays tricks and pranks on others, as well as being meddlesome and greedy
- When Brighella moves he has a low centre of gravity with bent knees, he takes small fast steps with an open body language



### Columbina -Middle

- Agile and playful
- Fluid and flirty movement
- Lots of shoulder rolls
- Happy to use her femininity to get attention
- Leads with heels but with chest up and shoulders back
- Arms lead from wrists
- Lots of confidence
- Smooth walk with the head held high



### Magnifico -Master

- The Master of the Masters
- The most powerful character in the world of Commedia
- Magnifico is like an Eagle - always looking down
- Pure Evil
- Mysterious - not much is known about him as he rarely enters plays
- Demanding.
- Dominating
- Loud, booming voice



### Dottore -Master

- A man who knows everything about the world but understands nothing.
- Has a greed for knowledge and constantly brags about his intelligence
- Leading with the belly - he is so weighed down with knowledge that he cannot physically support himself
- Always rubbing/holding onto his Big belly



### Pantalone -Master

- A greedy old merchant who loves to argue about money and property.
- Leading with the chin
- Mean, 'vinegary' and very stingy
- Arched back, hunched like an old man
- Clawing fingers, rubbing fists
- Nasal Sounds



### Il Capitano -Middle

- He reveals his cowardice whenever challenged to some act of danger or daring and usually attempts to take the credit for other characters' achievement
- Arrogant, pompous and full of himself
- High centre of gravity- straight legs and tall posture
- Open body language
- Wants to show off and be the centre of attention
- Lifts from lower leg from the knee like a bird



### Zanni -

- The Zanni character is a buffoon or clown
- Usually hunched over through carrying heavy loads as a porter, with knees in a 'bowed' position and feet splayed apart.
- Always \_\_\_\_\_, waving arms and gesticulating with hands
- Some Zanni characters were known for their \_\_\_\_\_, including handstands and flips.



### -Servant

- \_\_\_\_\_ are clown characters, known for their silly behaviour and getting into trouble.
- The \_\_\_\_\_ is always hungry and on the hunt for food, however he can be sidetracked by a potential love interest
- The \_\_\_\_\_ is full of energy, doing handstands, somersaults and cartwheels.



### -Servant

- Whilst the Harlequin is known for getting into trouble, \_\_\_\_\_ is the one to cause trouble.
- \_\_\_\_\_ plays tricks and pranks on others, as well as being meddlesome and greedy
- When \_\_\_\_\_ moves he has a low centre of gravity with bent knees, he takes small fast steps with an open body language



### Columbina -

- Agile and playful
- Fluid and flirty movement
- Lots of \_\_\_\_\_
- Happy to use her \_\_\_\_\_ to get attention
- Leads with heels but with chest up and shoulders back
- Arms lead from \_\_\_\_\_
- Lots of confidence
- Smooth walk with the head held high



### -Master

- The Master of the Masters
- The most \_\_\_\_\_ character in the world of Commedia
- \_\_\_\_\_ is like an \_\_\_\_\_ - always looking down
- Pure \_\_\_\_\_
- \_\_\_\_\_ - not much is known about him as he rarely enters plays
- Demanding.
- \_\_\_\_\_
- Loud, booming voice



### Dottore -

- A man who knows everything about the world but understands nothing.
- Has a \_\_\_\_\_ for knowledge and constantly brags about his intelligence
- Leading with the \_\_\_\_\_ - he is so weighed down with knowledge that he cannot physically support himself
- Always rubbing/holding onto his \_\_\_\_\_



### -Master

- A \_\_\_\_\_ who loves to argue about money and property.
- Leading with the \_\_\_\_\_
- Mean, 'vinegary' and very stingy
- Arched back, hunched like an \_\_\_\_\_
- Clawing fingers, rubbing fists
- \_\_\_\_\_ Sounds



### -Middle

- He reveals his \_\_\_\_\_ whenever challenged to some act of danger or daring and usually attempts to take the \_\_\_\_\_ for other characters' achievement
- \_\_\_\_\_ and full of himself
- High centre of gravity- straight legs and tall posture
- \_\_\_\_\_ body language
- Wants to show off and be the centre of attention
- Lifts from lower leg from the knee like a \_\_\_\_\_

