			Week 3 WC 8th September	Week 4 WC 15th September	Week 5 WC 22nd September
Mon			Geography/History: Section 3	Geography/History: Section 4	Geography/History: Section 5
Tues			Sparx Maths	Sparx Maths	Sparx Maths
Weds			Sparx Reader	Sparx Reader	Sparx Reader
Thurs			Sparx Science	Sparx Science	Sparx Science
Fri			English: Section 3 Spanish/Mandarin: Section 3	English: Section 4 Spanish/Mandarin: Section 4	English: Section 5 Spanish/Mandarin: Section 5
	Week 6 WC 29th September	**Week 7 WC 6th October**	**Week 8 WC 13th October**	**Week 9 WC 3rd November**	**Week 10 WC 10th November**
Mon	Geography/History: Section 6	Geography/History: Section 7	Geography/History: Section 8	Geography/History: Section 9	Geography/History: Section 10
Tues	Sparx Maths	Sparx Maths	Sparx Maths	Sparx Maths	
Weds	Sparx Reader	Sparx Reader	Sparx Reader	Sparx Reader	Sparx Reader
Thurs	Sparx Science	Sparx Science	Sparx Science	Sparx Science	Sparx Science
Fri	English: Section 6 Spanish/Mandarin: Section 6	English: Section 7 Spanish/Mandarin: Section 7	English: Section 8 Spanish/Mandarin: Section 8	English: Section 9 Spanish/Mandarin: Section 9	English: Section 10 Spanish/Mandarin: Section 10
	Week 11 WC 17th November	**Week 12 WC 24th November**	**Week 13 WC 1st December**	**Year 9** Cycle 1 Homework	
Mon	Geography/History: Section 11	Geography/History: Section 12	Geography/History: Section 13		
Tues	Sparx Maths	Sparx Maths	Sparx Maths		
Weds	Sparx Reader	Sparx Reader	Sparx Reader		
Thurs	Sparx Science	Sparx Science	Sparx Science		
Fri	English: Section 11 Spanish/Mandarin: Section 11	English: Section 12 Spanish/Mandarin: Section 12	English: Section 13 Spanish/Mandarin: Section 13		

YEAR 9 – CYCLE 1 – KNOWLEDGE ORGANISERS

Section 1: Urbanisation		Section 2: Urbanisation	
urban area	**cities, towns**	urban change	**global pattern → increasing urbanisation → moving to urban areas**
rural area	**countryside, villages**	trend in HICs	**urbanisation rate** (speed) **slowing → 80% already moved** to **urban areas**
urbanisation	**increase** in **%** of a **country's population living** in **urban areas**	trend in LIC/NEE	**urbanisation rate speeding up → more people moving** to **urban areas**
megacity	**urban** area with **population** more than **10 million people**	megacities	**2015 → 28 megacities →** estimated **50 megacities** by **2050**
population	**number** of **people** in a **place**	manufacturing	**making things** in **factories**
migration	**moving from** one **area to another**	industry	**processing raw materials** and **manufacturing goods** (usually in factories)

Section 3: Urbanisation		Section 4: Urbanisation	
location of Lagos	**Lagos → largest city** in **Nigeria** and in **Africa → megacity → population over 21 million → location southwest Nigeria,** on **coast** (by sea)	urban growth	**urban growth (city expands** in **population** and **land size**) **→ population** in **1960 less than 1 million → population today over 21 million**
regional importance	**most important city in Nigeria → rail links with Nigeria → good for trade → 80%** of **Nigeria's industry** is based in **Lagos**	cause 1 →· migration	**rural to urban migration → increased population Lagos → push** and **pull factors → 1200** people **migrate** to **Lagos every day**
national importance	**Lagos** is **main economic** (money) centre in west **Africa → many banks** and **financial services**	cause 2 →· natural increase	**most migration** to **Lagos → young adults → start** a **family → population increase → birth rate higher** than **death rate → increases population**
international importance	**Lagos → large port** (ships dock at harbour) **→ economically important → importing** and **exporting goods** on **container ships around** the **world**	slums	**60% live** in **slums →** e.g. **Makoko →** over **38% no kitchen**, **bath** or **toilet**
push factors	**people migrate from rural** areas → negative reasons e.g. **famine**	clean water	**slums → few taps →** people **share tap/well → contaminated** with **sewage**
pull factors	**people migrate to urban** areas → positive reasons e.g. **better paid jobs**	sanitation	**slums → no sewage systems → 15 slum houses share one toilet**

Section 5: Urbanisation		Section 6: Urbanisation	
access to services	**access** to **medical care** → very **limited** → **not enough schools**	air pollution	**air pollution** from **car** engines **5 times higher** than **safe limit**
unemployment and crime	**40%** people **Lagos informal employment** (e.g. **car washing**, **litter picking)** → **earn** less than **$1.25 per day** → armed **mugging** and **burglaries common**	water pollution	**sewage** from **slums** and **toxic chemicals** from **factories** poured into **rivers**
health	**life expectancy** in **Lagos risen** → **46** years **1990** → **55** years **2018**	urban planning	making a **plan** to **improve** the **quality** of **life** in a city e.g. better schools
education	**years** in **education risen** → **6** years **1990** → **9** years **2015**	improving education	**Lagos** → **rising population** → **not enough land** to **build schools** → **Makoko floating school** → was **built** on **boat** → **space** for **100** children
water supply	**new water** pipes **constructed** → but **mainly** in **rich** areas	improving jobs	**Lagos building new financial area** of city → called **Eko Atlantic** → will **employ 150,000 people** in **tertiary employment** (providing services)
energy	**2** new **power stations** → to **increase power** supply	improving transport	project called **Bus Rapid Transit** (BRT): 1. **new bus lanes** have been built 2. now every day **over 200,000 people use bus** instead of **driving** 3. **reduces journey times, traffic congestion** and air **pollution**

Section 7: Ecosystems			
tropical rainforest	**distributed** along **Equator** → **in-between Tropic of Cancer** and **Tropic of Capricorn** very **concentrated insolation** (sunlight) at **Equator** → **temperatures high** → **warm moist air rises** (creates low pressure) → lots of **evaporation** → lots of **precipitation** **climate** → **high temperatures** and **high precipitation** → **flora** and **fauna thrive** → **high biodiversity** in **tropical rainforest** **largest rainforest** → **Amazon, South America** → 7 million km^2	hot desert	**distributed** along **Tropic of Cancer** (15° to 35° north of Equator) and along **Tropic of Capricorn** (15° to 35° south of Equator) **air rises** at **Equator** → **air pushed north and south** → north (to **Tropic of Cancer**) and south (to **Tropic of Capricorn**) → **air cools high** up in **atmosphere** → **air sinks** (high pressure) → **air warms as it falls** → **no clouds can form** → **arid** desert climate → **dry** **climate** → **high temperatures** and **low precipitation** → **harsh** and **dry** → **arid** → **low biodiversity** in **deserts** **largest hot desert** → Sahara, Africa → 9 million km^2

Section 8: Ecosystems			
impact of changing one ecosystem component	**removing one species → affects entire food web → removing producer → less food for consumers → reduces consumers** **natural** factors → **damage** ecosystems → **drought, fire, disease** **human** factors → **damage** ecosystems → **introducing more fish**, **changing** the **pH level**, **altering** the **nutrient levels → eutrophication**	polar	**polar global ecosystem → distributed →** the **Arctic (Northern Hemisphere)** and **Antarctica (Southern Hemisphere) →** at high latitudes **→ insolation less concentrated** here **climate → temperatures mostly below freezing → windy** and **very little precipitation → soil covered** in **ice throughout** the **year** **species** of **moss**, **algae** and **lichen survive** the **harsh conditions → few other plants** can **survive → low biodiversity**

Section 9: Ecosystems			
case study → small-scale ecosystem (UK)	**<u>case study → Roundhay Lake, Leeds → small scale ecosystem in the UK</u>** - **bottom** of lake → **decomposers** and **scavengers** live here where they **feed** on **dead material** e.g. **water worms** - **middle** of lake → **fish** main **consumers** here e.g. **stickleback fish** - **surface** of lake → **plenty** of **oxygen** and **light** here e.g. **ducks** - **edge of lake** → producers e.g. marsh marigold → provide **sheltered habitat** for **insects** and **smalls animals** such as **frogs** - **above** the **lake surface** → **birds** such as **kingfishers** and **insects** like **dragonflies** are **common** here	impact of changing one ecosystem component	- **removing one species → affects entire food web → removing producer → less food for consumers → reduces consumers** - **natural** factors → **damage** ecosystems → **drought, fire, disease** - **human** factors → **damage** ecosystems → **introducing more fish**, **changing** the **pH level**, **altering** the **nutrient levels → eutrophication**

Section 10: UK Resources		Section 11: UK Resources	
inequalities	**when something is unequal** (and usually unfair)	resources and wellbeing	**3 most important resources → food**, **water, energy →** important for **social** and **economic wellbeing →** quality of life and development
population density	**compares** the **number** of **people living** in **places** of the **same size**	inequalities → food resources	over **1 billion people** do not have enough food → **drought** and **lack** of **infrastructure** (difficult to transport food) in many African countries
significance	the **importance** of **something**	inequalities → water resources	**some places less water** than **others → physical** reasons e.g. **climate → human** reasons e.g. **not enough infrastructure** (**water pipes**)
social wellbeing	**enough resources → good quality of life → economic development**	inequalities → energy resources	**energy resources → energy needed** for **economic** and **social development** e.g. **electricity** needed to **power factories** and **hospitals**
economic wellbeing	**enough jobs → people** have **money** for **good quality of life**	yield	the **amount produced → lots** of **crops grown → high yield** of **plants**
consumption	to **consume resources → food, water, energy being used**	local food sourcing	**reduces food miles → reduces carbon footprint**

Section 12: UK Resources			
high-value food exports to UK	**increasing incomes** in **UK → people want/can afford** to **eat exotic** foods **→ from LICs/NEEs →** e.g. **Vanilla** from **Madagascar → expensive**	larger carbon footprints in UK	**food miles** increasing → often food is imported by **airplane → releases greenhouse gases → large carbon footprint**
all-year demand for seasonal food in UK	**people in UK like eating favourite fruits all year → most fruits only grow in certain seasons →** so **fruits imported** from **warmer countries**	local sourcing of food in the UK	**local food** becoming **more popular** in **UK →** people **buy food** from **local farms → smaller food miles → reduces** the **carbon footprint**
demand for organic produce in the UK	**people** in **UK choosing organic food → difficult** to **grow →** grown **without pesticides/artificial fertilisers → more expensive** to **buy**	trend towards agribusiness in UK	**small farms bought** by **large companies →** to **maximise profits → field sizes increased →** more **machines** and **fewer workers → increase yields**

Section 13: UK Resources	
changing demand for water in the UK	**amount** of **water used** by **UK homes risen 70%** since **1985** → **more appliances** e.g. **dishwashers** → due to more **frequent showering**
improving water quality in the UK	**water pollution** → **pesticides**, **fertilisers**, **oil**, **sewage** → **pollution management improves water quality** → **illegal** to **pollute rivers**
water deficit and surplus in UK	**areas** with **highest population** in **UK** are **however areas** with **least rainfall** → **1/3 UK population lives** in **south east** → **driest part** of **UK**
water transfer to maintain supplies	**water transferred** from **one place** to **another** in the **UK** → e.g. from **area** of **water surplus** (**Wales**) to **area** of **water deficit** (**Liverpool**)

Year 9 Cycle 1 English LCWC – The Gothic and Identity Poetry

Section 1: Revision	
Foreshadowing	A warning or indication of (a future event).
Flashback	A scene in a film, novel, etc. set in a time earlier than the main story.
Imagery	Description used to create an image in the reader's mind.
Irony	A situation an event that seems deliberately contrary to what one expects.
Juxtaposition	The fact of two things being seen or placed close together with contrasting effect.

Section 2: Gothic Context		Section 3: Gothic Conventions 1	
The Victorian Era	The period from **1837 to 1901 when Queen Victoria reigned** over the British and their Empire. A time famous for industrial growth and innovation as well as many social challenges	**extreme landscapes**	Dark, wild, and **treacherous** place full of **wrathful weather**, **malevolent forests**, and **ghostly graveyards**
Science vs Religion	**Growing scientific discovery** and understanding of the natural world, including the publication of Charles Darwin's evolutionary theories (1859), concerned many people.	**abandoned buildings**	**Haunted houses**, cobwebbed castles, **derelict churches** fallen into disrepair
		omens, portents, visions	A character may have a **disturbing dream, vision,** or some phenomenon may be seen as **a portent** of coming events.
Increased Literacy and the birth of the novel	The Elementary Education Act (1880) made **school compulsory for all children aged 5-10**; more people could read and **printing books became much cheaper**	**terror**	**suspenseful feelings** of fear, **fear of death**, shock, dread, or disgust in the reader
The Penny Dreadfuls and Shilling Shockers	Cheap and sensational weekly magazines featuring detectives, criminals, and the supernatural	**supernatural monsters**	**demons, witches, ghosts**, banshees, **vampires**, and other supernatural creatures

Section 4: Gothic Vocabulary 1		Section 5: Gothic Conventions 2	
Gothic fiction	a genre of literature and film that covers horror, death and at times romance	**atmosphere of mystery and suspense.**	The work is pervaded by a **threatening** feeling, a **fear** enhanced by the **unknown.**
metonymy	is a **subtype of metaphor**, in which something (like rain) is used to **stand for something else** (like sorrow)	**Femme Fatale**	French for "**fatal women**," is a being of sexuality and femininity, enchantment and mystery. The femme fatale is often seen as **destructive and transforming**
tension	1.**mental or emotional imbalance**. 2. opposition between two individual parties or people.	**Woe (noun)**	Great sorrow or distress.
doppelganger	an **apparition** or **double** of a living person	**Byronic Hero**	flawed, typically **rebellious, arrogant**, anti-social or in exile, and **darkly, enticingly romantic**
supernatural	(of a manifestation or event) attributed to some **force beyond scientific understanding** or the laws of nature.	**supernatural or inexplicable events**	**dramatic, amazing events** occur, such as ghosts or giants walking, or inanimate objects (such as a suit of armour or painting) coming to life

Section 6: Gothic Themes 1		Section 7: Gothic Vocabulary 2	
madness	the character usually has a psychological **imbalanc**e and behaves **irrationally** and in a disturbing manner	**grotesque**	things that are very **strange** and **ugly** in an **unnatural** way.
the body and its parts	Gothic literature is fascinated by **abnorma**l or distorted body parts or with **dissection** and the **recreation** of the human body	**duality**	the quality or condition of **being two**.
death	Gothic literature is obsessed with death, presenting constant **portents** of death, **unnatural deaths**, and series of deaths, all of which contribute to an **atmosphere** of **horror**	**aesthetic**	concerned with beauty or **the appreciation of beauty**
fear	fear is **ubiquitous: suspenseful feelings** of fear, **fear of death**, fear of the **unknown**	**duplicity**	**deceitfulness/ lies.**
physical danger	physical imprisonment or **entrapment**, claustrophobia, **torture,** danger of **death** and physical **assault** are commonplace	**prodigious**	remarkably or **impressively great in extent**, size, or degree. Or, in the archaic form, unnatural or abnormal.
Section 8: Gothic Themes 2		**Section 9: Identity Poetry Vocabulary 1**	
differences in power	the Gothic world is fascinated by violent differences in power, and its stories are full of **constraint, entrapment** and **forced actions**	**identity**	**no two people are alike**; we are individuals with **unique talents, interests and values**
isolation	Characters often feel mentally **incarcerated** or trapped inside their own feelings of **loneliness, despair, desperation** and **difference**	**stereotypes**	a **simplified** conception or **image of a particular group**
guilt	guilt and **sin** repeatedly appear in gothic literature, usually in reference to some **crime** committed or **secrets kept**	**discrimination**	**treatment against a person** based on **group, class or category** they fall into
being haunted by the past	characters are often attempting to **run** from a **sinful or criminal past** from which they fear **reprisa**l and often have recurring nightmares or think they can see figures from their past	**prejudice**	an **unfavourable opinion** formed beforehand **without knowledge**
		marginalise	**relegate** to a lower or **outer edge**

Section 10: Identity Poetry Vocabulary 2	
culture	all the **knowledge and values shared by a society**
emancipation	The act of becoming **free from legal, social or political restrictions; liberated**
inclusion	the act of **making a part of something**
ideology	an **orientation** that **characterises the thinking of a group**
pride	deep **pleasure and satisfaction** from **one's achievements**

Section 11: Poetic Devices and Terminology 1	
stanza	a **group of lines organised together** in a poem
enjambment	the **running over of one line onto another**
caesura	a **pause** in the **middle of a line**
aysendeton	use of **commas** between **words / phrases or clauses** for effect
imagery	**visually descriptive** or **figurative language**

Section 12: Poetic Devices and Terminology 2	
juxtaposition	where **two or more ideas**, places, actions or characters are **placed side by side**
allusion	an indirect or **passing reference** to something
tone	**mood** of a text created by **language choices**
metaphor	**comparison** of two things by stating **one thing as another**
refrain	**repeated lines** throughout a poem

Section 13: Cycle 1 Key Vocabulary	
tension	1.**mental or emotional imbalance**. 2. opposition between two individual parties or people.
ideology	an **orientation** that **characterises the thinking of a group**
aesthetic	concerned with beauty or **the appreciation of beauty**
marginalise	**relegate** to a lower or **outer edge**
prejudice	an **unfavourable opinion** formed beforehand **without knowledge**

Jinbu 2 Chapter 1.假期 HOLIDAYS

Key Language

Weather		
风	fēng	wind
雨	yǔ	rain
雪	xuě	snow
云	yún	cloud
晴天	qíng tiān	clear day
雾	wù	fog
冷	lěng	cold
热	rè	hot
天气	tiān qì	weather
今天有风。	jīn tiān yǒu fēng.	It is windy today.
明天没有雨。	míng tiān méi yǒu yǔ.	It will not rain tomorrow.
昨天不冷。	zuó tiān bù lěng.	It was not cold yesterday.

Countries, nationalities and languages		
中国	zhōng guó	China
英国	yīng guó	UK
法国	fǎ guó	France
德国	dé guó	Germany
美国	měi guó	USA
日本	rì běn	Japan
印度	yìn dù	India
西班牙	xī bān yá	Spain
巴基斯坦	bā jī sī tǎn	Pakistan
澳大利亚	ào dà lì yà	Australia
中文	zhōng wén	Chinese (language)
汉语	hàn yǔ	Chinese (language)
中国人	zhōng guó rén	Chinese (people/ nationality)
日本人	rì běn rén	Japanese (people/ nationality)

英文/语	yīng wén /yǔ	English (language)
西班牙文/语	xī bān yá wén /yǔ	Spanish (language)
说	shuō	to spesk /to say
你说英语吗？	nǐ shuō yīng yǔ ma？	Do you speak English?
你是哪国人？	nǐ shì nǎ guó rén？	What nationality are you?

Holiday locations and activities		
地方	dì fang	place
海边	hǎi biān	seaside
山区	shān qū	mountains
农村	nóng cūn	countryside
城市	chéng shì	city
博物馆	bó wù guǎn	museum
滑雪	huá xuě	to ski /skiing
散步	sàn bù	to go for a walk
去	qù	to go
朋友	péng you	friend
男朋友	nán péng you	boyfriend
和…一起…	hé…yì qǐ…	together with…to do…
我和朋友一起去山区滑雪。	wǒ hé péng you yì qǐ qù shān qū huá xuě.	I go to the mountains with my friend to ski.

Where		
博物馆在哪儿？	bó wù guǎn zài nǎr？	Where is the museum?
你去哪儿？	nǐ qù nǎr？	Where are you going?

Transport		
火车	huǒ chē	train
汽车	qì chē	car
公共汽车	gōng gòng qì chē	bus
出租车	chū zū chē	taxi
自行车	zì xíng chē	bicycle
飞机	fēi jī	aeroplane

船	chuán	ship /boat
坐	zuò	to sit /go by
骑	qí	to ride on
怎么	zěn me	how
你怎么去海边？	nǐ zěn me qù hǎi biān？	How are you getting to the seaside?

Time		
今天	jīn tiān	today
明天	míng tiān	tomorrow
昨天	zuó tiān	yesterday
今年	jīn nián	this year
明年	míng nián	next year
去年	qù nián	last year
零	líng	zero
他去年去了中国。	tā qù nián qù le zhōng guó.	He went to China last year.
我去年没去中国。	wǒ qù nián méi qù zhōng guó.	I didn't go to China last year.

Grammar for Chapter 1 Holidays

Grammar Name	Description of the grammar	Example and Sentence Pattern
Past and future	It's very simple to talk about past or future weather in Chinese. All you have to do is use the correct time word. You don't need to change the verb at all. Note the use of the verb 有 yǒu for	北京明天有雨。 Běi jīng míng tiān yǒu yǔ. It will rain in Beijing tomorrow. 北京今天有雨。 Běi jīng jīn tiān yǒu yǔ. It is raining in Beijing today. 北京昨天有雨。 Běi jīng zuó tiān yǒu yǔ. It was raining in Beijing yesterday. 北京明天很热。

<table>
<tr><td></td><td>talking about rain, snow, wind or fog, but not “hot” or “cold”.</td><td>Běi jīng míng tiān hěn rè.
It will be hot in Beijing tomorrow.
北京昨天很冷。
Běi jīng zuó tiān hěn lěng.
It was cold in Beijing yesterday.</td></tr>
<tr><td>Verb-adjectives</td><td>Adjectives (describing words such as “hot”, “cold”, “busy”) often act as verbs in Chinese.
The verb “to be” (“Today is very cold”, “I am not busy”) is understood, so you do not need to add 是 shì between the subject and the verb-adjective.</td><td>今天很冷。
Jīn tiān hěn lěng.
(literally, “Today very cold”)
我不忙。
Wǒ bù máng.
(literally, “I not busy”)</td></tr>
<tr><td>Country/ nationality/ language</td><td>To talk about nationality in Chinese, you add 人 rén (person) after the name of the country. To say the name of a language, change“ 国 guó” into “语 yǔ”. For those countries without “ 国 guó”， you often just add 语 yǔ (or 文 wén as</td><td>
<table>
<tr><td>country</td><td>nationality/ people</td><td>language</td></tr>
<tr><td>法国
fǎ guó
France</td><td>法国人
fǎ guó rén
French</td><td>法语
fǎ yǔ
French</td></tr>
<tr><td>西班牙
xī bān yá
Spain</td><td>西班牙人
xī bān yá rén
Spanish</td><td>西班牙语
xī bān yá yǔ
Spanish</td></tr>
</table>
</td></tr>
</table>

	you learned in Jinbu 1) to the end. The Chinese language has several different names. You can either say "中文 zhōng wén" or "汉语 hàn yǔ" (language of the Han people – the main ethnic group in China.)	
Use of 哪 nǎ	哪国人 nǎ guó rén (literally, "which country-person?") asks about nationality. 哪 nǎ (which) can also be used in "哪个人" = which person. (You need a measure word between 哪 and the noun.)	你是哪国人? Nǐ shì nǎ guó rén? What nationality are you? 你喜欢哪只猫? Nǐ xǐ huan nǎ zhī māo? Which cat do you like?
Use of 和 hé…一起 yì qǐ	To say you do something with somebody in Chinese you use: **Person A 和 (and) person B + 一起 ("together") + verb** The verb goes at the end of the	James 和 Darren 一起滑雪。 James hé Darren yì qǐ huá xuě. (Literally: James and Darren together ski.)

	sentence. Words that say “when”, “how”, “with whom”, etc. go before the verb.	
Means of transport	When talking about means of transport, how you get somewhere must always come before the main verb. If there is a time phrase in the sentence, then that comes before the means of transports. It’s easiest to think of 坐 zuò and 骑 qí (for bikes and horses) as meaning “by” in this type of sentence; word order is very important here.	我坐飞机去中国。 Wǒ zuò fēi jī qù zhōng guó. I go to China by plane. 我明天坐飞机去中国。 Wǒ míng tiān zuò fēi jī qù zhōng guó. I will go to China tomorrow by plane.
Use of 了 le	When placed directly after a verb, 了 le indicates that an action has been completed. You will sometimes find examples where 了 is not used.	我去了中国。 Wǒ qù le zhōng guó. I went to China. 昨天我看了电影。 Zuó tiān wǒ kàn le diàn yǐng. I watched a film yesterday. 我没去中国。 Wǒ méi qù zhōng guó. I didn’t go to China. 昨天我没看电影。 Zuó tiān wǒ méi kàn diàn yǐng.

	To make the negative, you need to use “没 méi” not “不 bù”.	I didn’t watch a film yesterday.
Verb-objects with 了 le	You have learned that when 了 le indicates a completed action, it is often directly after the verb. With a verb-object (verb + noun), suck as 打网球 (play tennis), 滑雪 (go skiing) you normally put 了 le after the verb, before the noun.	滑雪 go skiing huá xuě 滑了雪 went skiing huá le xuě 打网球 play tennis dǎ wǎng qiú 打了网球 played tennis dǎ le wǎng qiú
Two verbs together	In Chinese it’s very simple to use two verbs together. The second verb follows on directly after the first.	我们去打网球。 Wǒ men qù dǎ wǎng qiú. We are going to play tennis. 他们去看电影。 Tā men qù kàn diàn yǐng. They are going to see a film.

Section 1 – Structure of Atoms	
Atoms	**All substances** are made of **atoms**. **Radius** of atom = **0.1 nm** (**1 x 10 $^{-10}$ m**)
Protons	Mass = **1**, charge = **+1**, location = **nucleus**.
Neutrons	Mass = **1**, charge = **0**, location = **nucleus**.
Electrons	Mass = **very small**, charge = **-1**, location = **shells**.
Nucleus	Most of the **mass** is **concentrated** here. **Positively** charged. **Radius** of nucleus = **1 x 10^{-14} m** (**1/10000** of radius of atom).
Shells / Energy Levels	**1st shell** = **2** electrons max, **2nd shell** = **8** electrons max, **3rd shell** = **8** electrons max.
Overall Charge on Atom	**Zero charge** (neutral) because **proton** charge = **+1**, **electron** charge = **-1**. **Same number** of protons and electrons so **charges cancel** out.
Section 2 - Atomic Number, Mass Number and Isotopes	
Atomic number	Number of **protons**. (Also gives number of electrons)
Mass number	**Total** number of **protons** and **neutrons**.
Isotopes	Atoms of the **same element** with **same** number of **protons** and **different** numbers of **neutrons**.
Relative Atomic Mass (A_r)	The **weighted average** of the masses of all of the isotopes of an element
Calculating A_r	1. **Multiply** each **mass** by the **% abundance**. 2. **Add** them up. 3. **Divide** by **100**.

Section 3 – History of the Atom	
Dalton's Model	Described atoms as **tiny solid spheres**.
Plum Pudding Model	Described atoms as a **ball** of **positive charge** with **negative electrons** stuck in it.
Rutherford's Experiment	**Fired** positive **alpha** particles at a thin sheet of **gold**.
Rutherford's Result	**Most** alpha particles went **straight through** or slightly **scattered**. Very small number **deflected** back.
Rutherford's Explanation	Nucleus is **tiny** and **positively** charged. Most of the atom is **empty space**. **Cloud** of negative **electrons** surround nucleus.
Bohr's Nuclear Model	Discovered that **electrons** orbit the nucleus in **fixed shells**.
Protons & Neutrons	**Rutherford** discovered **protons**. Later, **Chadwick** discovered **neutrons**.
Section 4 – Elements, Compounds, Mixtures and Separation Processes	
Element	A substance made up of **one type** of **atom.**
Compound	A substance made up of **two** or **more types** of **atom** **chemically joined** together.
Mixture	A substance made up of **two** or **more substances** mixed together but **not chemically joined**.
Filtration	Separates an **insoluble solid** from a **liquid** using **filter paper**.
Evaporation	**Heat** solution to **evaporate** liquid until **dry crystals** are left.
Crystallisation	**Heat** solution until **crystals** form, leave to **cool**, **filter** out crystals and leave to **dry**.
Distillation	Separates out a **liquid** from a **mixture**. Liquid **evaporates** then **condenses**. Two types – **simple** and **fractional**.
Chromatography	Separates a **mixture** of **coloured liquids**.

GCSE Science

Chemistry C1 – Atomic Structure

Section 1 – Modern Periodic Table	
Periodic Table	**118 elements** in order of **atomic number**.
Groups	Vertical **columns**. Contain elements with **similar chemical properties**.
Group number	Tells you the **numbe**r of **electrons** in the **outer shell**.
Periods	Horizontal **rows**.
Period Number	Tells you the **number** of **shells**.
Metals	Found on **left** side. **Conductors** of **heat** and **electricity**, **strong, malleable** and **high melting** and **boiling** points.
Non-metals	Found on **right** side. **Insulators** of **heat** and **electricity**, **dull**, **brittle**, **lower melting** and **boiling** points.
Section 2 – Development of Periodic Table	
Early tables	**Fewer elements** (e.g. no noble gases). Arranged in **order** of **atomic weight** (no knowledge of atomic number yet).
Newland's table	Not well accepted. Elements in **same group** often had **different properties**, some boxes had **2 elements.**
Mendeleev's table	Well accepted. Left **gaps** for **undiscovered** elements and **switched places** of some to ensure elements with **similar properties** in **same group**.
Mendeleev's predictions	Used table to **predict properties** of **undiscovered** elements. Turned out to be **correct**.

Section 3 – Group 1 Alkali Metals (lithium, sodium, potassium)	
Properties	**Soft**, **low density**, **shiny** when **cut** but **quickly** go **dull** when they **react** with **oxygen** in air.
Reactions with water	**Vigorous** reactions - produce an **alkaline solution**. **metal** (s) + **water** (l) -> **metal hydroxide** (aq) + **hydrogen** (g)
Reactions with chlorine	Produce a **white metal chloride salt**. **metal** (s) + **chlorine** (g) -> **metal chloride** (s)
Reactions with oxygen	Forms **dull metal oxide layer**. **metal** (s) + **oxygen** (g) -> **metal oxide** (s)
Trends down the group	**Increasing reactivity** and **decreasing melting** and **boiling points**.
Section 4 – Group 7 Halogens (fluorine, chlorine, bromine, iodine)	
Properties	Fluorine = **pale yellow gas,** chlorine = **yellow-green gas**, bromine = **red-brown liquid**, iodine = **grey solid** with **purple vapour**.
Diatomic Molecules	Made of **pairs** of **atoms** –> **F_2, Cl_2, Br_2, I_2.**
Trends down the group	**Decreasing reactivity** and **increasing melting** and **boiling points**.
Reactions with metals	React with metals to form **metal halide salts**.
Displacement Reactions	A **more reactive** halogen can **displace** a **less reactive** halogen from its **salt**.
Section 5 – Group 0 Noble Gases (helium, neon, argon, krypton)	
Properties	**Inert** (very **unreactive**), **colourless** gases, **non-flammable**.
Electrons	**Full outer shell** of **electrons** –> very **stable** -> do not **react**.
Trends down the group	**Increasing boiling point**.

GCSE Science

Chemistry C1 – Periodic Table

Section 1 – Cell Structure and Specialised Cells	
Eukaryotic Cell	**Complex** cell with a **nucleus**.
Prokaryotic Cell	Small **simple** cell with **no nucleus**.
Prokaryotic DNA	Stored as **single DNA loop** or small **rings** (**plasmids).**
Ribosomes	Where **proteins** are **synthesised**.
Cell Wall	Made of **cellulose** -> **strengthens** plant and algal cells.
Sperm cells	**Fertilise** egg cells. Carry **male DNA**. **Tail** for **swimming**. Many **mitochondria**. **Enzymes** in head. **Half** a set of **DNA**.
Nerve cells	Carry **electrical signals**. **Long** and **branched** at the ends.
Muscle cells	Specialised for **contraction**. Cells are **long** and contain many **mitochondria**.
Root hair cells	**Absorb water** and **minerals** from the soil. Root hair **projections** provide a **large surface area**. No **chloroplasts**.
Xylem Cells	Form tubes that transport **water** and **minerals** around plant -> **dead** cells -> **no end walls.**
Phloem Cells	Form tubes that transport **dissolved food** around plants -> **living** cells -> **small pores** in **end walls**.
Section 2 - Microscopy	
Magnification	Higher **magnification** = **larger** image**.**
Resolution	Higher **resolution** = **clearer** image.
Equation	**Magnification = Image size / Actual size**
Units	From **mm** to **µm x 1000.** From **µm** to **mm ÷ 1000.**
Preparing an Onion Slide	Peel **thin layer** with **tweezers** -> place on **slide** -> add **iodine stain** -> lower **cover slip** gently to avoid bubbles.
Using a Light Microscope	Place on **stage** -> use **lowest** power **objective lens** -> adjust with **course focus** then **fine focus** -> **repeat** with **higher magnification** if needed.
Electron Microscope	Higher **magnification** and **resolution** than a **light** microscope.

Section 3 – Cell Cycle and Stem Cells	
Chromosomes	Molecules of **DNA**, **23 pairs** found in **nucleus,** carry **genes**.
Cell Cycle	Three stages -> **growth & DNA replication**, **mitosis** and **cell division**.
Growth & DNA Replication	Cell **grows** -> number of **subcellular structures increases** -> **DNA replicates** -> forms **X shaped chromosomes**.
Mitosis	Cell division. **Chromosomes line up** in centre -> **pulled** apart by **fibres** -> **two nuclei** formed -> cytoplasm and **cell membrane divides**. Creates two **identical daughter cells.**
Differentiation	Process by which **cells** become **specialised.**
Stem Cells	**Undifferentiated** cells -> can become different **types** of **cell**.
Embryonic Stem Cells	**Grown in lab** -> made to **specialise** -> used to **replace faulty cells** -> treats disease e.g. **diabetes** and **spinal damage.**
Adult Stem Cells	Cells transferred from **bone marrow** -> replaces **faulty blood cells** in patient.
Plant Stem Cells	Found in **meristems** (tissues in the **tips** of **roots** and **shoots**) -> used to **produce clones** of **rare species** and crops with **desired features** (e.g. disease resistance).
Section 4 – Cell Transport	
Diffusion	**Net movement** of particles -> from a **higher to lower concentration** -> **down** a **concentration gradient.**
Osmosis	**Net movement** of **water** molecules -> across a **partially permeable membrane** -> from a **dilute** to a **concentrated** solution
Active Transport	**Movement** of particles -> from a **lower** to **higher** concentration -> **against** a **concentration gradient** -> requires **energy**.
Factors that Increase Rate of Cell Transport	**Steeper concentration gradient**, **larger surface area**, **shorter diffusion pathway**.

GCSE Science

Biology B1 – Cell Biology

Year 9 History Cycle 1 Powerful Knowledge 100% sheet

Section 1: The Political Spectrum (Part 1)		Section 2: The Political Spectrum (Part 2)	
The Political Spectrum	A straight line where we place different political ideas relating to how a country should be run. Comes from before the **French Revolution of 1789**. If you wanted change you stood on the **left.** If you wanted things to stay the same, you stood on the **right**.		
Marxism	Marxism comes from Karl Marx, a German philosopher. He predicted that the working classes would rise in revolution. Every country would be communist – a classless, equal society.	**Capitalism**	Believe that people should have **equality of opportunity**. An **unequal society** is inevitable. Capitalists think that businesses should keep their **profits** through **lower taxes**.
Socialism	Socialists believe that society should become **more equal**, but that full equality is not realistic. They want **higher taxes** on the rich so that wealth can be **redistributed**. Socialists prioritise the **welfare state** – the NHS, police, education and benefits system.	**Conservatism**	Conservatives do not generally like change. They like **traditions** – like preserving the countryside, army and the monarchy. Conservatives are often **patriotic** and think that an individual's needs are not as important as that of the country.
Liberalism	People should have their **freedoms** protected by the government. These ideas are part of democracy. Individuals have **freedom of speech,** freedom of the press and freedom of religion. Liberals believe that the government **should not interfere** in their lives.	**Far Right – Nazism and Fascism**	Believe that some people should not have **equal rights** or protections because some are **'superior' (**better) than others. Believe (wrongly) that there is a **hierarchy of races** – Nazis believe that the Aryan race was better than others.
Section 3: How the Americans established democracy		**Section 4: Significance of American Democracy**	
Thirteen Colonies	The **Thirteen Colonies** were part of the British Empire. This was before the United States existed.	**Republic**	The US didn't want an unelected king to rule over them. A country that doesn't have a monarch is a **republic**.
Taxation	The Thirteen Colonies could only trade with other colonies in the British Empire. The Americans had no MPs in Parliament. This led to the phrase: **'no taxation without representation'.**	**President**	The President would be elected (chosen) every **four years**. The first president was **George Washington**. Americans didn't want their government to interfere in their lives
Declaration of Independence	On **4th July 1776**, the US Declaration of Independence said that **'all men are created equal'** and that the colonies would create their own country, independent of Britain.	**Constitution**	The Constitution is the rules for stating how the country should be run. There would be a **separation of powers**. **President:** Could pass or veto (reject) laws. **Congress:** Can propose new laws and override Presidential veto. **Supreme Court:** Decides whether new laws should be allowed.
War of Independence	First shots were fired at **Lexington** in **1775**. The French and Spanish joined the USA against the British. The USA won in **1783**.		
Section 5: Causes of the Russian Revolution		**Section 6: How the Bolsheviks seized power**	
Nicholas II	Was the **Tsar (Emperor)** of Russia. He lacked the confidence and experience needed to rule Russia.	**1917**	On 2nd March 1917 Nicholas II **abdicated** (gave up the throne). A provisional (temporary) government was set up.
Autocracy	Means to have all the power in the hands of one man. Nicholas II believed in the **divine right of kings** – that God had chosen him.	**Lenin**	Vladmir Lenin was a **Marxist** and a communist. He was the leader of the Russian Communist Party (known as the Bolsheviks).
Unequal Society	**Nearly 80%** of all Russians were peasants. There was a massive wealth gap between the rich and poor.	**Bolsheviks**	The Bolsheviks wanted a **revolution** to create a **classless society**. They wanted to end the war and give power to the workers.
First World War	The war was a disaster for Russia. They suffered many defeats at the hands of the Germans. Nicholas II was blamed because he had made himself head of the **Commander-in Chief** of the army.	**October Revolution**	**General Kornilov** marched on Petrograd (St. Petersburg). He was defeated by the **Red Guards** (Bolshevik soldiers). The Red Guards then stormed the Winter Palace and took over Russia.

Section 7: How Stalin rose to power		Section 8: How Stalin modernised the economy	
Struggle for power	There were four possible successors to **Lenin**: Leon Trotsky, Nikolai Bukharin, Lev Kamenev and Joseph Stalin.	**Goals**	Russia had not gone through an **industrial revolution** – there were hardly any factories. Stalin also wanted a **classless society**.
Trotsky's mistakes	Trotsky was **arrogant** (overly self-confident). He didn't think that he would not need to ask others to support him to be leader.	**Collectivisation**	Small farms run by private individuals would be banned. Land would be **collectively owned** by everyone.
Lenin's will and testament	Lenin **criticised everyone** in his will. Stalin persuaded everyone else to not publish it, so the criticisms of him were never known.	**Impact of collectivisation**	**Kulaks** (slightly richer peasants) were arrested, sent to gulags or shot. Collectivisation led to **famine** in Ukraine, **3-5 million died**.
Lenin's funeral	Lenin had been very popular. Stalin deliberately told Trotsky the **wrong date** for the funeral and presented himself as Lenin's heir.	**Industrialisation**	Stalin introduced targets for industry known as **Five-Year Plans**. Workers were told exactly how much they must produce.
Stalin's tactics	Stalin was known as **'the grey blur'** – no one knew how ambitious he was. He was the **General Secretary** and could recruit new members to the party who would support him.	**Impact of industrialisation**	Coal output rose from **60 million tons** in 1930 to over **100 million** tons by 1935. Steel production (needed to produce tanks and aircraft) increased from **4 to 19 million tons**.
Section 9: Soviet Purges and Propaganda		**Section 10: How the Chinese Communists won the Civil War**	
Stalin's rule	Stalin felt that he needed to **completely control** the Russian people and **terrorise** them so they would not resist.	**Communists vs Nationalist**	Communists were led by **Mao Zedong**, a Marxist revolutionary. The Nationalists **(KMT)** were led by **Chiang Kai-shek**.
Terror (purges)	The secret police **(NKVD)** arrested, imprisoned **(in gulags)** and executed government officials, party bosses and army officers.	**The Long March**	The Communists escaped from Chiang's nationalist forces and retreated **6,000 miles** to the north of China. It took **13 months**. Only **8,000** of the original 36,000 survived.
Propaganda	Information designed to **manipulate** people. Posters showed happy workers and Stalin as a loving **father figure** of the nation.	**Communist victory**	Mao's **Red Army** took over the countryside and cities. Chiang Kai-shek fled to Taiwan. In **1949**, the Communists had won.
Section 11: Great Leap Forward		**Section 12: Cultural Revolution**	
Context	Mao wanted to bring in **collectivisation** and **industrialisation**.	**Context**	Mao felt that China was losing its **'revolutionary spirit'.**
Problems	Grain **quotas** (targets) were too high. **Backyard steel furnaces** didn't make high quality steel. There was **no opposition** to Mao.	**Actions**	Mao told his **Red Guards** to attack people: practised old customs, respected old culture, still had old habits or believed in old ideas.
Consequences	The 'Great Leap Forward' led to a disastrous **famine** (shortage of food). It is estimated that perhaps **30 million** people died.	**Consequences**	Mao's main target were his rivals in the Party. It is estimated that between **1 and 2 million** people were killed.
Section 13: Deng Xiaoping's Reforms			
Context	When Mao died in **1976**, China was still desperately poor. **88%** of people lived on the equivalent of less that **$2 per day**. The Chinese economy was just **5%** of the size of the United States. Deng Xiaoping became the new leader of China. He said that Mao was 'seven parts good, three parts bad'.		
Four Modernisations	Deng Xiaoping allowed **capitalist ideas**. This meant: stopping collectivisation, instead people could own their own land; allowing **private businesses** to be set up and introduced an **open door policy** – foreigners could now invest money in the Chinese economy.		
Consequences	Deng's reforms completely changed China. The economy grew on **average 9.5% per year**. China became the world's **major manufacturing economy.**		
Tiananmen Square 'Massacre'	In 1989 protests broke out in Beijing, the Chinese capital. The young thought that there was too much **inequality** and called for democracy to spread to China where the people would have freedom of speech. By **May 1989**, the protests had spread to **400 cities**. The Government decided to use the army to put down the protests. In Tiananmen Square in Beijing, troops fired on protestors where perhaps several thousand were killed. Democracy was **not allowed**.		

Year 9 Spanish Cycle 1

Week 2 w/c 8th September: Most important infinitive verbs			
Ir	To go	**Comprar**	To buy
Visitar	To visit	**Ver**	To watch/to see
Comer	To eat	**Hablar**	To talk
Beber	To drink	**Escuchar**	To listen
Hacer	To do	**Aprender**	To learn
Jugar	To play	**Ayudar**	To help
Estudiar	To study	**Viajar**	To travel
Llevar	To wear	**Bailar**	To dance
Leer	To read	**Participar**	To take part
Usar	To use	**Descansar**	To relax

Week 2 w/c 8th September: Key structures that MUST be followed by INFINITIVES			
Suelo…	I usually…	**Voy a…**	I am going to…
Solemos…	We usually…	**Vamos a…**	We are going to…
Me gusta…	I like…	**Quiero…**	I want…
Me chifla…	I love…	**Me gustaría…**	I would like…
Odio…	I hate…	**Hay que…**	You must…
Prefiero…	I prefer…	**Se debería…**	You should…
Se puede…	You can…		
Tengo que…	I have to…		

Week 3 w/c 15th September: ¿Adónde fuiste de vacaciones?			
El año pasado	Last year	**Viajé en avión**	I travelled by plane
Cuando hizo calor	When it was hot	**Viajé en barco**	I travelled by boat
Cuando hizo frío	When it was cold	**Viajé en autocar**	I travelled by coach
Fui a Gales	I went to Wales	**Viajamos en tren**	We travelled by train
Fui a Grecia	I went to Greece	**Viajamos en coche**	We travelled by car
Fui al bosque	I went to the forest	**…con mi familia**	…with my family
Fui al campo	I went to the country	**…con mi mejor amigo**	…with my best friend
Fuimos a la ciudad	We went to the city	**…con mi colegio**	…with my school

Week 4 w/c 22nd September: ¿Qué hiciste durante las vacaciones?			
Durante las vacaciones	During the holidays	**Saqué fotos**	I took photos
Compré recuerdos	I bought souvenirs	**Comí helados**	I ate ice-creams
Monté en bicicleta	I rode a bike	**Nadé en el mar**	I swam in the sea
Después tomé el sol	Afterwards I sunbathed		
Jugué en mi móvil	I played on my phone		
Conocí a un chico	I met a boy		
Salí con mi familia	I went out with my fam		

Week 5 w/c 29th September: ¿Qué hiciste durante las vacaciones?			
Lo pasé bien	I had a good time	**Fue asombroso**	It was awesome
Lo pasé mal	I had a bad time	**Fue emocionante**	It was exciting
Fue fenomenal	It was great	**Fue fatal**	It was awful
Hizo mal tiempo	It was bad weather	**Fue un desastre**	It was a disaster
Hizo frío	It was cold	**Hizo calor**	It was hot
Hizo sol	It was sunny	**Hizo viento**	It was windy

Week 6 w/c 6th October: Key past tense verbs			
Fui a…	I went to…	**Viajé en…**	I travelled by…
Fuimos a…	We went to…	**Jugué**	I played
Me alojé en…	I stayed in…	**Saqué fotos**	I took photos
Conocí a…	I met…	**Tomé el sol**	I sunbathed
Comí	I ate	**Bebí**	I drank
Nadé	I swam	**Salí**	I went out

Week 7 w/c 13th October: Most important infinitive verbs			
Ir	To go	**Comprar**	To buy
Visitar	To visit	**Ver**	To watch/to see
Comer	To eat	**Hablar**	To talk
Beber	To drink	**Escuchar**	To listen
Hacer	To do	**Aprender**	To learn
Jugar	To play	**Ayudar**	To help
Estudiar	To study	**Viajar**	To travel
Llevar	To wear	**Bailar**	To dance
Leer	To read	**Participar**	To take part
Usar	To use	**Descansar**	To relax

Week 8 w/c 3rd November: Key structures			
Suelo…	I usually…	**Voy a…**	I am going to…
Solemos…	We usually…	**Vamos a…**	We are going to…
Me gusta…	I like…	**Quiero…**	I want…
Me chifla…	I love…	**Me gustaría…**	I would like…
Odio…	I hate…	**Hay que…**	You must…
Prefiero…	I prefer…	**Se debería…**	You should…
Se puede…	You can…		
Tengo que…	I have to…		

Week 9 w/c 10th November: ¿Dónde te alojaste?			
Me alojé en	I stayed in	**y era barato/a**	and it was cheap
Nos alojamos en	We stayed in	**y era relajante**	and it was relaxing

Week 10 w/c 17th November: ¿Qué comiste?			
Comí una paella de marisco	I ate seafood paella	**Bebí leche**	I drank milk
Comí una ensalada de tomate y lechuga	I ate a lettuce and tomato salad	**Bebí agua**	I drank water
Comí arroz con pollo	I ate rice with chicken	**Bebí un café con leche**	I drank coffee with milk
Comimos un bocadillo de jamón y queso	We ate a ham and cheese sandwich	**Bebimos un té**	We drank a tea
Comimos huevos	We ate eggs	**Bebimos una limonada**	We drank lemonade
Comimos un helado de fresa	We ate a strawberry ice-cream	**Bebimos un zumo de naranja**	We drank orange juice
…en un restaurante típico	…in a typical restaurant	**Bebimos un zumo de manzana**	We drank apple juice

Week 12 w/c 1st December: ¿Cómo te ganas la vida?			
Soy abogado	I am a lawyer	**En una fábrica**	In a factory
Soy camarero/a	I am a waiter/waitress	**En una oficina**	In an office
Soy cocinero/a	I am a chef	**En una tienda**	In a shop
Trabajo como enfermero/a	I work as a nurse	**En el extranjero**	abroad
Trabajo como médico	I work as a doctor	**En un gimnasio**	In a gym
Trabajo como peluquero	I work as a hairdresser	**En un restaurante**	In a restaurant
Mi madre es periodista	My mum is a journalist	**En una farmacia**	In a pharmacy
Mi madre es jefa	My mum is a boss	**En un hospital**	In a hospital

Week 13 w/c 8th December: ¿Qué piensas de tu empleo?			
Diría que	I would say that	**…y es fácil**	…and it is easy
Me fascina mi trabajo	I am fascinated by my job	**…y es estresante**	…and it is stressful
No aguanto mi trabajo	I can't stand my job	**Hay que**	It is necessary to
Ya que soy perezoso/a	Because I am lazy	**Enseñar a la gente**	Teach people
Ya que soy listo/a	Because I am clever	**Jugar todo el día**	Play all day
Ya que soy tonto/a	Because I am silly	**Leer todo el día**	Read all day
Ya que soy trabajador/a	Because I am hardworking	**Vender productos**	Sell products
Ya que soy deportivo/a	Because I am sporty	**Viajar por todo el mundo**	Travel the world