

Beckfoot School

Knowledgeable
And Expert Learners

10
Year

2023/24
Easter-May

enjoylearnsucceed

Name:

Homework Instructions

Tutor group:

Contents

- Homework Instructions QR Codes
- Independent Learning: Revise Like a Beckfooter
- Read and Reflect Like a Beckfooter
- Subject specific Knowledge Organisers and blanks
- Self-quizzing and knowledge organisers
- Beckfoot Power Hour
- Flashcards instructions and templates
- Mind-maps instructions and templates
- Brain-dumps instructions and templates
- Learn Like a Beckfooter Rewards

What should you be working on each week?

Homework:

- Your teacher will set specific tasks, with a deadline, on Class Charts
- Instructions for your homework and how to access it are in this booklet
- You must complete and hand in the work by the deadline

Independent Learning: Revise Like a Beckfooter

- You should complete 1 task per day, 5 days a week
- The tasks will be set on Class Charts to help you keep track
- You can choose the subject/topic you want to work on
- Your tutor will check your ILB at regular intervals
- You will be rewarded for going above and beyond expectations

- All of your Homework will be set by your teachers using the Class Charts system.
- You should check Class Charts every day to make sure you are up to date, and that you meet all your deadlines.
- In the next few pages, you will find instructions for how to access Class Charts and how to complete your homework assignments in each of your subjects.

Logging in to Class Charts

Follow the steps below to access your student account.

1. Enter your email address and password into the fields provided.

2. Click on the Log in button.

3. Enter your date of birth if prompted and click on the OK button.

Homework

If your school has decided to share homework with pupils, you will see the Homework tab in your account.

To change the date range for displayed homework tasks, click on the orange Date button.

To display tasks in the order they are expected to be handed in, click on the Due date button.

To mark a homework task as completed, view the homework task of your choice in more detail and tick the Completed? checkbox.

To view a homework task in more detail, click on the expand icon in the bottom right hand corner of the homework tile.

A popup will appear that contains the description of the homework task, the estimated completion time and any links or attachments that may have been included.

Keeping track of homework

As you are assigned homework tasks, you may want track of how you are progressing for the current week.

The three banners above the homework status categories count the number of homework tasks that are due this week, how many of those tasks you have completed and how many tasks you still need to complete.

To only see homework tasks that require an attachment submission, tick the checkbox labelled Requires submission.

If you are viewing the Homework tab via a desktop or laptop, expanding a homework status category will display a table overview of each homework task for the selected date range.

Task	Teacher	Lesson	Issued	Due	Estimated time	Type	Feedback
Research GDP	Mr A. Blacker	8F/Gg	Monday 09/11/2020	Wednesday 11/11/2020	1 hours	Blended Learning	
Write a soliloquy	Mr J Kato	8y/En2	Tuesday 10/11/2020	Tuesday 17/11/2020	30 minutes	Homework	
Create a poster on French food	Mrs A. Abell	7YEL/7r	Friday 06/11/2020	Thursday 19/11/2020	45 minutes	Homework	Feedback

Homework status categories

To do: These are homework tasks that you need to complete. Once you have completed them, tick the checkbox.

Completed: These are homework tasks that you have ticked as completed but have not been marked by your teacher.

Late: These are homework tasks that have been handed in past the deadline.

Not submitted: These are homework tasks that were not handed in on time.

Submitted: These are homework tasks that have been handed in on time.

Homework Instructions

Scan the QR codes below to find instructions for each subject's homework and access to independent learning resources.



SCAN ME

Maths



SCAN ME

English



SCAN ME

Science



SCAN ME

MFL



SCAN ME

Humanities



SCAN ME

D&T



SCAN ME

Perf. Arts



SCAN ME

Art



SCAN ME

Music



SCAN ME

Computing



SCAN ME

Knowledgeable &
Expert Learners



SCAN ME

Confident
Communicators

How to access My Learning Resources

My Learning Resources is an online space where you can find all your lesson PowerPoint, knowledge organisers, quizzes and more. This will help you to learn independently and catch up any missed work.

1. Select 'Student Zone' on the homepage of our website

2. Select 'My Learning Resources'

3. Select 'My Learning Resources'

3. Select the subject you want to work on

3. Select the relevant half term.
All the resources you need will be here

3. Select your year group

You may be asked to enter your school email address and password here

How to access Seneca

Seneca learning is a free online platform that will help you revise for all your subjects.

1. Go to <https://senecalearning.com/en-GB/>

2. Click 'log in' of the top right hand corner.

3. Select 'Continue with Microsoft'.

4. Enter your school email and password.

5. Select the course(s) you want to work on.

You can also scan this QR code for a video walkthrough of how to log in as a student!

SCAN ME

Independent Learning at KS4: Revise Like a Beckfooter

Independent Learning at KS4 is all about getting you ready for your exams at the end of Y11.

To be successful at exams, it is helpful to understand how memory works. Scientific research into memory and learning tells us that:

- Memories weaken over time
- We forget the most soon after learning
- Stress makes it harder to remember things

You will learn lots of new information over your GCSE years, and you will have to remember that material in your exams at the end. So how can you ensure that you don't forget all that knowledge?

- Revise regularly and repeatedly
- Revise using strategies that are proven to be effective
- Don't leave revision until the last few weeks before exams

With all this in mind, we have designed a system of structured revision. This will help you develop really strong independent learning habits that will ensure you can:

- a) learn more effectively and
- b) reduce your stress at exam time

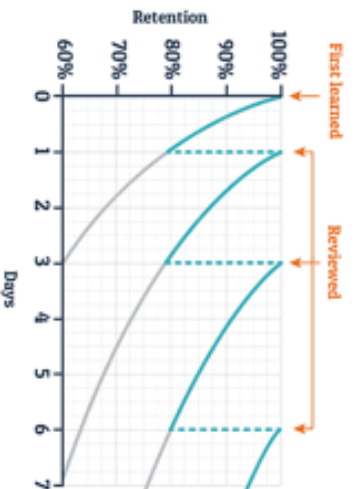
What we expect from you:

- 5 revision tasks per week using the specified revise like a Beckfooter strategy (on Class Charts)
- You choose the subjects – we set the tasks
- Bring your ILB to school every day

What you can expect from us:

- Support with your revision through tutor and lessons
- Revision tasks on Class Charts to help you stay on track
- Your ILB will be checked regularly by your tutor

Typical Forgetting Curve for Newly Learned Information



Our evidence-informed 'Revise Like a Beckfooter' strategies:

1. Self-quizzing
2. Flash Cards
3. Mind-Maps
4. Brain Dumps

Read Like a Beckfooter

Vocabulary

Do you understand the words of the text?

Highlight any you're unsure of, then ask yourself these questions:

1. Can you work out the word from its context? What does it seem like it means?
2. Does it look like any other words you know? Could it mean something similar?
3. If you can't figure it out for yourself, look the word up in a dictionary or online



Comprehension

This means understanding a text. There are two things to think about:

1. Do you understand what it means literally?
2. Can you see what's implied?

To achieve these things:

1. Slow down your reading – many people miss key parts in texts because they go too fast
2. Look carefully at punctuation, which is designed to help you take pauses in the right places
3. Ask a trusted adult to read the text to/with you

Remember: not every text has implied meaning.

In English there will be lots, but there will be very little in many Science and Maths texts.

Summarising

A good summary expresses what really matters about a text as briefly as possible. If you can summarise a text, you must have understood it.

Follow these steps:

1. Summarise the text in five words
2. Summarise the text in twenty words
3. Summarise the text in fifty words

Each time you will have added more information, but you won't have included everything.

By following the process, you've decided what matters and what doesn't.

Reflect Like a Beckfooter

As knowledgeable and Expert Learners, we are great at being reflective. We ask ourselves lots of questions before, during and after a task, not just at the end! This helps us to make good choices about what we need to do, and the best way to do it. It also helps us to stay motivated, even when things get tough. Finally, it helps to make sure we always complete learning tasks to the very best of our ability.

Before a task, ask yourself:

Comprehension

What is this task about? What do I understand about it?

What am I being asked to do?

Connection

What do I already know about this?

Have I seen anything like this before?

How is this similar or different to other tasks I have done?

Strategy

Do I know any strategies that would be appropriate for this task?

Which strategy would be most helpful to me now? Have I used this strategy before?

Was it successful?

How can I ensure I am successful this time?

During a task, ask yourself:

Reflection (during the task)

How is this going?

What mistakes do I often make in this kind of task?

How can I avoid making those mistakes?

What am I finding difficult right now?

What am I doing well?

How do I know?

How do I feel about the work?

Am I motivated to complete this task to a high standard?

What can I do to improve my motivation level right now?

After a task, ask yourself:

Reflection (after the task)

Does my finished work look successful?

Does it make sense?

How do I know?

Could I have done this a different way?

Is this work better than I have done in the past?

How do I know?

How did my motivation level affect my performance in the task?

What emotions did I experience during the task? Why?

How can I motivate myself in a different way in the future? Explain

Algebra Cubic Circular, Exponential Functions

1	Sketch Sinx Cosx	
2	Sketch exponential graphs	<p>Graphing Exponential Functions</p> <p>$y = 2^x$</p> <p>horizontal asymptote: $y = 0$ the function is always positive (asking for any exponent yields positive values)</p> <p>$2^{-1} = 1/2^1 = 1/2$ $2^{-2} = 1/2^2 = 1/4$ $2^{-3} = 1/2^3 = 1/8$ $2^{-4} = 1/2^4 = 1/16$</p>
3	Graphs equations of circles	<p>$x^2 + y^2 = r^2$ $x^2 + y^2 = 49$</p>
4	Recognise cubic & reciprocal graphs	

Algebra – Co-ordinates and Graphs

1	Finding the gradient	$\frac{\text{Change in } y}{\text{Change in } x}$
2	Finding the Equation of a Line given a point and a gradient	Substitute in the gradient (m) and point (x,y) in to the equation $y = mx + c$ and solve for c.
3	7. Finding the Equation of a Line given two points	Use the two points to calculate the gradient. Then repeat the method above using the gradient and either of the points.
4	Parallel Lines	If two lines are parallel , they will have the same gradient. The value of m will be the same for both lines.

Geometry and Measures – Properties of Polygons

1	Sum of Interior Angles.	$(n - 2) \times 180$ where n is the number of sides.
2	Size of Exterior Angle in a Regular Polygon.	$\frac{360}{n}$
3	Angles in a quadrilateral add up to 360° .	e.g.

Key Vocabulary

2	Substitute	$a = 3, b = 2$ and $c = 5$. Find: 1. $2a = 2 \times 3 = 6$ 2. $3a - 2b = 3 \times 3 - 2 \times 2 = 5$ 3. $7b^2 - 5 = 7 \times 2^2 - 5 = 23$
3	Interior	Sum of the interior angles ÷ number of sides.
4	Exterior	If the side of a polygon is extended, the angle formed outside the polygon is the exterior angle.
5	Regular	If the angles are all equal and all the sides are of equal length.
6	Polygon	Is a 2D shape with at least 3 straight sides.

Ratio Proportion Rates of Change - Real Life Graphs

1	Calculate fastest average speed.	<p>Break the graph down into smaller pieces to see what is happening</p> <p>Gradient A = $1/3$ → 0.3m/s Gradient B = $5/3$ → 1.7 m/s Gradient C = $3/5$ → 0.6m/s</p>
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Subject: Maths	Term: Half Term 6 - April	Year Group: 10F
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Algebra Cubic Circular, Exponential Functions

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Algebra – Co-ordinates and Graphs

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Geometry and Measures – Properties of Polygons

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Key Vocabulary

2	Substitute	
3	Interior	
4	Exterior	
5	Regular	
6	Polygon	

Ratio Proportion Rates of Change - Real Life Graphs

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3	Graphs equations of circles	$x^2 + y^2 = r^2$ $x^2 + y^2 = 49$
4	Recognise cubic & reciprocal graphs	

Transforming Functions & expanding brackets

5	Transforming graphs	
6	$v = f(x/a)$	
	Single brackets	$5(x + 3) + 6(x - 4)$ $5x + 15 + 6x - 24$ $11x - 9$
	Double brackets	$(5x + 2)^2$ $(5x + 2)(5x + 2)$ $25x^2 + 10x + 10x + 4$ $25x^2 + 20x + 4$
	Triple brackets	Expand $(x + 3)(x + 5)(x + 4)$ $(x^2 + 5x + 3x + 15)(x + 4)$ $(x^2 + 8x + 15)(x + 4)$

Geometry - Trigonometry 2

1	Sine Rule – Missing Side	$\frac{a}{\sin(A)} = \frac{b}{\sin(B)} = \frac{c}{\sin(C)}$
2	Sine Rule – Missing Angle	$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$
3	Cosine Rule – Missing Side	$a^2 = b^2 + c^2 - 2bc \cos(A)$
4	Cosine Rule – Missing Angle	$\cos(A) = \frac{b^2 + c^2 - a^2}{2bc}$

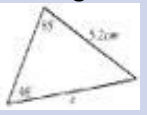
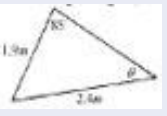

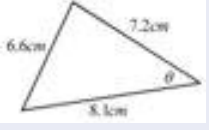
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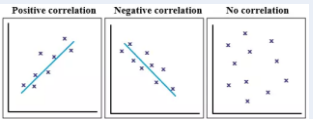
Transforming Functions & expanding brackets

5	Transforming graphs	
	y-axis	x-axis
6	$y=f(x/a)$ $/a=f(x)$	$(y$
	Single brackets	
	Double brackets	
	Triple brackets	

Geometry -Trigonometry 2

1	Sine Rule – Missing Side 	
2	Sine Rule – Missing Angle 	
3	Cosine Rule – Missing Side 	
4	Cosine Rule – Missing Angle 	

Geometry & Measure – Reflections, Rotations & Translations		
1	Rotation - A “turning” movement of an image about a fixed point	Describe by - a) “Rotation” b) Angle of rotation c) Centre of rotation d) Direction of rotation
2	Reflection - A “flipping” movement across a mirror line	Describe by - a) “Reflection” b) The equation of the line of reflection
3	Translation - A “sliding” movement of an image	Describe by - a) “Translation” x is the horizontal movement b) The column vector y is the vertical movement

Statistics - Scatter Graphs		
1	Causality	When one variable influences another variable
2	Line of best fit	A straight line that best represents the data on a scatter graph
3	Outlier	A value that “lies outside” most of the values in the data set
4	Positive, Negative or No Correlation	

Key Vocabulary		
1	Asymptote	a straight line that continually approaches a given curve but does not meet it
2	Perpendicular	Two lines are perpendicular if they meet at a right angle. Then have a gradient of m and $-\frac{1}{m}$

Geometry & Measure – Reflections, Rotations & Translations		
1	Rotation - A “turning” movement of an image about a fixed point	
2	Reflection - A “flipping” movement across a mirror line	
3	Translation - A “sliding” movement of an image	

Key Vocabulary		
1	Asymptote	
2	Perpendicular	$\frac{1}{m}$

Statistics - Scatter Graphs		
1	Causality	
2	Line of best fit	
3	Outlier	
4	Positive, Negative or No Correlation	

The Poems:

1	'Ozymandias' Percy Shelley	Narrator meets a traveller who tells him about a statue of Pharaoh Rameses II that has been destroyed by nature over time. Highlights the temporary nature of power.
2	'London' William Blake	Narrator walks round London and describes the misery he sees brought about by the corrupt power of institutions (church, monarchy) over their subjects.
3	'The Prelude' William Wordsworth	Narrator takes a boat out on the lake. Sees a mountain appear and is overwhelmed by the power of nature compared to humans.
4	'My Last Duchess' Robert Browning	Duke shows portrait of his former wife who is now dead. The Duchess was flirtatious and displeased the Duke. We realise he probably had the Duchess killed. The Duke is planning his next marriage.
5	'The Charge of the Light Brigade' Alfred Lord Tennyson	Tribute to British cavalry who died during Crimean War. An incorrect order meant the cavalry charged into battle with swords, to be met by the Russians who were armed with guns.
6	'Exposure' Wilfred Owen	Winter on the front line in WWI. Nature personified as the main enemy and the men can only wait to die. Poem stresses insignificance of humans compared to nature.
7	'Storm on the Island' Seamus Heaney	A community are waiting to be hit by a storm. The power of the storm creates feelings of fear and trepidation.
8	'Bayonet Charge' Ted Hughes	Single soldier's experience of a charge towards enemy lines. The soldier fears for his life & the patriotic ideals that encouraged him to fight have gone.

The Poems:

9	'Remains' Simon Armitage	A group of soldiers shoot a man who's running away from a bank raid. The narrator doesn't know if the man was armed or not and can't get the man's death off his mind. When back at home, the soldier suffers PTSD.
10	'Poppies' Jane Weir	A mother describes her son leaving home to join the army. She fears for his safety and visits a familiar place that reminds her of him.
11	'War Photographer' Carol Ann Duffy	In his dark room, a war photographer develops pictures taken in different warzones. He contrasts his experiences to rural England and people who seem oblivious to war torn places.
12	'Tissue' Imtiaz Dharker	Tissue is an extended metaphor for the fragility of life. Literal uses of paper are also discussed, such as recording names in the Koran, as well as the fact we are made from tissue, emphasising we are fragile.
13	'The Emigree' Carol Rumens	Speaker recalls a city she left as a child. The city has changed and perhaps was a scene of conflict but she protects the memory of her city. It might not be a real place but represents a time/emotion/speaker's childhood.
14	'Checking Out Me History' John Agard	In school the narrator was taught British history & not about his Caribbean roots. He contrasts nonsense topics he was taught with admirable figures excluded from history.
15	'Kamikaze' Beatrice Garland	A Japanese kamikaze pilot aborts his mission and when he returns home is shunned. His daughter imagines her father was reminded of his childhood and beauty of nature & life whilst on the mission.

Key Vocabulary:

1	Monologue	A monologue poem features a single speaker who is a fictional character
2	Caesura	Punctuation marks indicate a break in the line of poetry. Usually occurs in the middle of a line.
3	Enjambment	The continuation of a sentence without a pause beyond the end of a line/stanza
4	Free Verse	A poem without consistent metre patterns or rhyme scheme.
5	Rhyme	Correspondence of sound between words or ending of words.
6	Volta	In a sonnet, the volta is the turn of thought or argument.
7	Couplet	Pair of successive lines, typically rhyming and of the same length.
8	Sonnet	One stanza, 14-line poem written in iambic pentameter.
9	Refrain	A line or set of lines that repeatedly occurs in a poem.
10	Stanza	A group of lines in a poem.

Comparisons:

1	Power of Nature	Ozymandias, The Prelude, Exposure, Storm on the Island, Tissue & Kamikaze.	6	Identity	My Last Duchess, The Charge of the Light Brigade, Poppies, Tissue, The Emigree, Kamikaze, Checking Out Me History.
2	Power of Humans	Ozymandias, London, My Last Duchess, Tissue, Checking Out Me History.	7	Place	London, The Prelude, The Emigree, Kamikaze.
3	Effects of Conflict	The Charge of the Light Brigade, Exposure, Bayonet Charge, Remains, Poppies, War Photographer, Kamikaze.	8	Powerful Individuals	Ozymandias, My Last Duchess
4	Reality of Conflict	The Charge of the Light Brigade, Exposure, Bayonet Charge, Remains, War Photographer.	9	Political Power	Storm on the Island, London, The Charge of the Light Brigade
5	Individual Experiences	London, The Prelude, Bayonet Charge, Remains, Poppies, War Photographer, The Emigree, Kamikaze.	10	Memory	The Prelude, My Last Duchess, Remains, Poppies, War Photographer, The Emigree, Kamikaze.

The Poems:

1	'Ozymandias' Percy Shelley	
2	'London' William Blake	
3	'The Prelude' William Wordsworth	
4	'My Last Duchess' Robert Browning	
5	'The Charge of the Light Brigade' Alfred Lord Tennyson	
6	'Exposure' Wilfred Owen	
7	'Storm on the Island' Seamus Heaney	
8	'Bayonet Charge' Ted Hughes	

The Poems:

9	'Remains' Simon Armitage	
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Key Vocabulary:

1	Monologue	
2	Caesura	
3	Enjambment	
4	Free Verse	
5	Rhyme	
6	Volta	
7	Couplet	
8	Sonnet	
9	Refrain	
10	Stanza	


Comparisons:

1	Power of Nature	6	Identity
2	Power of Humans	7	Place
3	Effects of Conflict	8	Powerful Individuals
4	Reality of Conflict	9	Political Power
5	Individual Experiences	10	Memory

Finite and renewable resources			Potable water			Key Vocabulary		
1	Finite resources	Can't be replaced as quickly as they are being used.	Steps to obtain potable water			1	finite	Will run out eventually
2	Example for finite	Fossil fuels and metals	1	Choose a source of water		2	renewable	We can replace them as we use them
3	Renewable resources	We can replace them as quickly as we use them. Will never run out	2	Remove solids such as dirt and mud		3	sustainable	generation without compromising the ability of the meets the needs of the current future generations to meet their needs.
4	Examples for renewable	Wood,	3	Remove bacteria and unwanted minerals such as salt.				
			4	Add chlorine to kill bacteria				
Synthetic replacements			5	Salt water must be desalinated to provide potable water. Distillation can be used to desalinate sea water. Sea water can also be treated by reverse osmosis, but this is expensive as it uses a lot of energy.		4	Potable water	Water that is naturally safe for humans to drink
Common examples of synthetic replacements						5	Life cycle assessment(LCA)	LCA is the environmental impact of a product.
1	Wool is replaced by acrylic fibres.		Treating waste water			Life cycle assessment		
2	Cotton is replaced by polyester.		Stages of sewage treatment			Stages of a product's life		Impact on the environment
3	Wood for use in construction is replaced by PVC and MDF composites		1	Screening and grit removal.		1	Extracting and processing raw materials	Large amount of energy required, causes pollution and damaging habitat through quarrying, mining or felling of trees.
Reuse and recycling			2	Sedimentation to produce sewage sludge and effluent.				
Importance of reuse and recycling and examples of materials reused and recycled			3	Anaerobic digestion of sewage sludge – biogas produced/ remaining sludge can be used as fuel.				
1	Help save limited resources and energy.		4	Aerobic biological treatment of effluent. Effluent can be discharged back into rivers.				
2	Reduce the amount of hazardous waste produced and less harmful effect on the environment. Quarrying causes habitat loss, noise pollution and release carbon dioxide.		Extraction of copper from low-grade copper ores (H)			2	Manufacturing and packaging	Use a large amount of energy and causes pollution. Use up land for factories. Releases harmful products.
3	Glass bottles can be reused- they can be crushed or melted to make different types of jars.		1	Bioleaching	Bacteria is added to water from the lakes. Leach out copper from the bacteria.	3	Use of the product	It depends on the product- use a lot of energy, release toxic waste or damage the environment
4	Plastic bottles are recycled to make fleece jackets and carpets.		2	Phytomining	Grow plants in copper containing soil. Plants absorb copper ions. Cut down plants and burn. Extract copper from the ash by electrolysis. The disadvantage of phytomining is plants grow slowly.	4	Product disposal	Use up landfill sites. This takes up space and pollute land and water. Products might be burnt which could cause pollution.
5	Melt and recast metals into different products. The problem is different metals need to be separated before being recycled.							

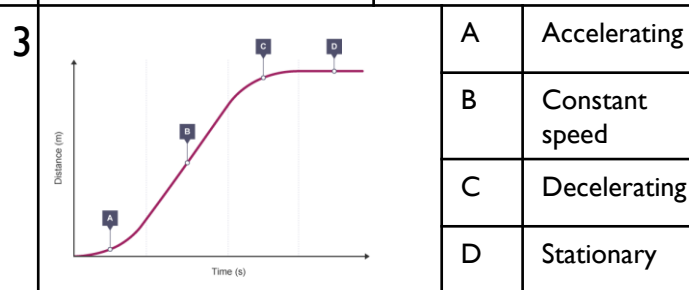
Finite and renewable resources		Potable water		Key Vocabulary	
1	Finite resources	Steps to obtain potable water		1	finite
2	Example for finite	1		2	renewable
3	Renewable resources	2		3	sustainable
4	Examples for renewable	3		4	Potable water
Synthetic replacements		4		5	Life cycle assessment(LCA)
Common examples of synthetic replacements		5		Life cycle assessment	
1		Treating waste water		Stages of a product's life	
2		Stages of sewage treatment		Impact on the environment	
3		1		1	Extracting and processing raw materials
Reuse and recycling		2		2	Manufacturing and packaging
Importance of reuse and recycling and examples of materials reused and recycled		3		3	Use of the product
1		4		4	Product disposal
2		Extraction of copper from low-grade copper ores (H)			
3		1	Bioleaching		
4		2	Phytomining		
5					

Corrosion		Ceramics				Composites			
Iron + Oxygen + Water → Hydrated Iron (III)Oxide		ceramic		manufacture	properties	uses	1	Composites are mixtures of material for specific uses.	
		1	Soda-lime glass	Heat a mixture of sand, sodium carbonate and limestone	Transparent and brittle	Everyday glass objects	2	The main material is called the matrix or binder.	
How to protect metals from corrosion		2	Borosilicate glass	Heat sand and boron trioxide.	Higher melting point than soda lime glass	Oven glassware and test tubes.	3	Second material is added as threads or fragments.	
		3	Clay ceramics (pottery + bricks)	Shape wet clay then heat in a furnace	Hard, brittle, easy to shape before manufacture, and resistant to corrosion	Crockery, construction and plumbing fixtures.	4	Examples- concrete (cement and gravel), reinforced concrete(concrete and steel rods), plywood(thin sheets of wood and glue) and MFD(woodchips in polymer resin)	
1	Coatings- Grease, paint or electroplate	Alloys- properties and use				Haber Process		$N_2(g) + 3H_2(g) \rightleftharpoons 2NH_3(g)$	
2	Natural coatings (Aluminium Oxide)								
3	Sacrificial protections	Alloy		composition	properties	use	1	Nitrogen and Hydrogen are pumped through pipes.	
Alloys		1	bronze	Copper and tin	Resistant to corrosion	Statues, decorative items and ship propellers.	2	Pressure of the gas mixture is increased to 200 atmospheres.	
		2	brass	Copper and zinc	Very hard but workable	Door fittings, taps and musical instruments.	3	Pressurised gases are heated to 450°C and passed through a tank containing Iron catalyst	
		3	Gold	Mostly gold with copper, silver and zinc.	Lustrous, corrosion resistant, hardness depends on carat.	Jewellery- 24 carat is 100% gold.	4	Reaction mixture is cooled, ammonia liquifies and then removed.	
		4	High carbon steel	Iron with 1-2% carbon.	Strong but brittle	Cutting tools and metal presses.	5	Unreacted Nitrogen and hydrogen are recycled.	
		5	Low carbon steel	Iron with less than 1% carbon	Soft, easy to shape	Cars, machinery, ships, containers and structural steel	NPK Fertilisers		
		6	Stainless steel	Iron with chromium and nickel	Resistant to corrosion, hard	Cutlery and plumbing.	1	Nitrogen- From Ammonia. Used to manufacture Ammonium salts and Nitric acid.	
		7	Aluminium	Over 300 available	Low density	Aircraft and military uses.	2	Phosphorus- Comes from mined phosphate rock. Treat the rock with nitric or sulfuric acid	
								3	Potassium- Potassium chloride and potassium sulphate. Common sources -Obtained by mining
								NPK fertilisers provide plants with the essential elements for growth.	

Corrosion		Ceramics				Composites		
		ceramic		manufacture	properties	uses	1	
		1	Soda-lime glass				2	
		2	Borosilicate glass				3	
How to protect metals from corrosion		3	Clay ceramics (pottery + bricks)				4	
		Haber Process						
1		$\text{N}_2(\text{g}) + 3\text{H}_2(\text{g}) \rightleftharpoons 2\text{NH}_3(\text{g})$						
2		Alloys- properties and use						
Alloys		Alloy		composition	properties	use	1	
		1	bronze				2	
		2	brass				3	
		3	Gold				4	
		4	High carbon steel				5	
		5	Low carbon steel				NPK Fertilisers	
		6	Stainless steel				1	
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						3		
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Distance – time graph

- The **gradient** of a distance-time graph is equal to the **speed** of the object. Steeper line = faster object.
- | | |
|------------------------|----------------|
| Flat line | Stationary |
| Straight diagonal line | Constant speed |
| Curve steeping | Acceleration |
| Curve levelling off | Deceleration |



Velocity – time graph

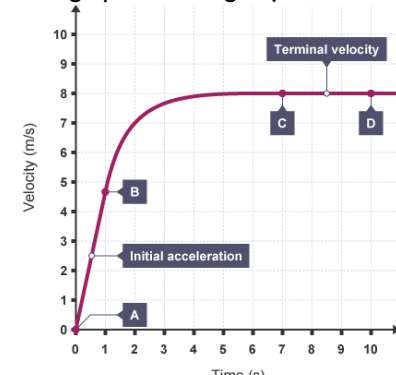
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Common speeds

1	Walking	1.5 m/s
2	Running	3 m/s
3	Cycling	6 m/s

Terminal velocity

- Terminal velocity is the maximum speed an object reaches when falling.
- When terminal velocity is reached the resultant force on the object is zero.
- Velocity-time graph for falling object:


- | | |
|-----|---|
| A-B | Accelerating due to gravity. The resultant force is down as weight is greater than resistive forces. |
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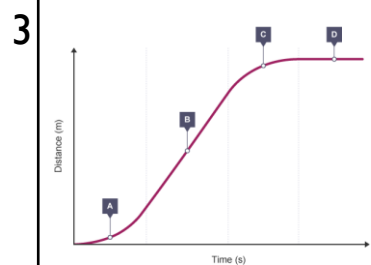
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A	
B	
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D	

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1 The **gradient** of a velocity-time graph

2 The **area** under the line

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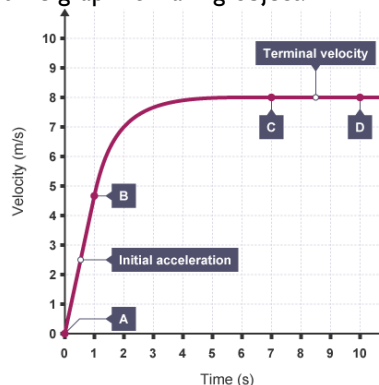
Common speeds

1	Walking	
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Terminal velocity

- 1 Terminal velocity is
- 2 When terminal velocity is reached

3 Velocity-time graph for falling object:



4	A-B	
	B-C	
	C-D	

Key Vocabulary

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Stopping distances

1	Stopping distance	Stopping distance= thinking distance + braking distance
2	Thinking distance	The distance a vehicle travels during the driver's reaction time.
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Required practicals

1	How mass affects acceleration	
	Independent variable	Mass
	Dependent variable	Acceleration
	Mass and acceleration are inversely proportional.	
2	How force affects acceleration	
	Independent variable	Force
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	Force and acceleration are directly proportional.	

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1	Momentum is given by multiplying mass and velocity.
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Symbols

s	Displacement
v	(Final) velocity
t	Time
a	Acceleration

Symbols

p	Momentum
u	Initial velocity
m	Mass
F	Resultant force

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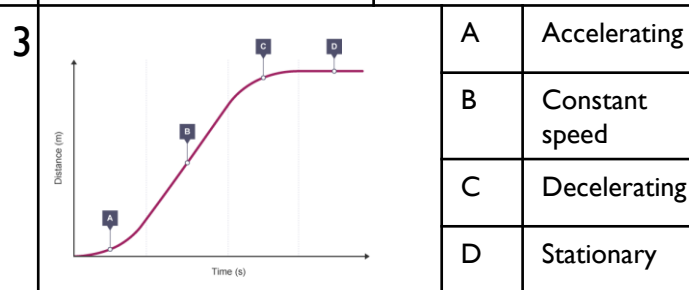
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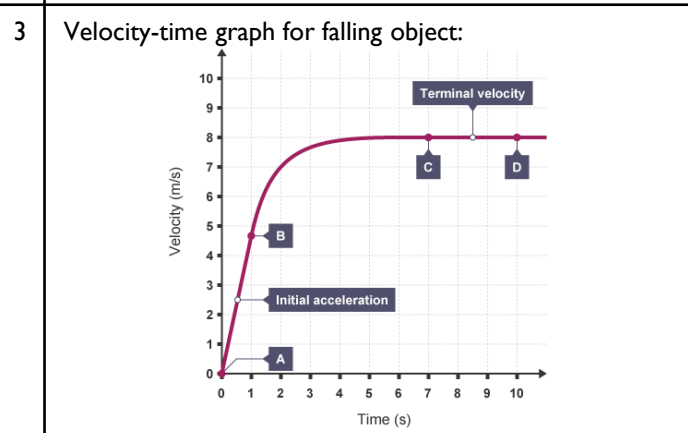
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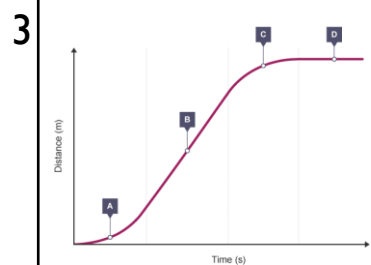
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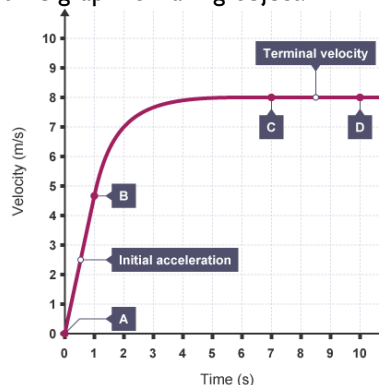
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The diagram shows a vacuum cleaner on a table blowing air into a string. The string passes over a bench pulley and is attached to a weight. A glider and card are on a track with light gates.

Momentum	
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2	It is
3	The conservation of momentum says:
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Forces equations		
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Symbols	
s	
v	
t	
a	

Symbols	
p	
u	
m	
F	

Present Tense		
1	Je suis	I am
2	J'ai	I have
3	Je fais	I do/make
4	Je vais	I go
5	J'aime	I like
6	Je déteste	I hate
7	Je joue	I play
8	Je mange	I eat
9	Je bois	I drink
10	Je lis	I read
11	J'achète	I buy
12	Je trouve	I find
13	Je travaille	I work
14	Je pense	I think
15	c'est	it's

Perfect Tense		
1	Je suis allé(e)	I went
2	Je suis parti(e)	I left
3	J'ai fait	I did/made
4	J'ai aimé	I liked
5	J'ai détesté	I hated
6	J'ai joué	I played
7	J'ai mangé	I ate
8	J'ai acheté	I bought
9	J'ai trouvé	I found
10	J'ai travaillé	I worked
11	J'ai regardé	I watched
12	J'ai vu	I saw
13	J'ai bu	I drank
14	J'ai lu	I read

Near Future Tense – I am going to...		
1	Je vais être	be
2	Je vais avoir	have
3	Je vais aller	go
4	Je vais faire	do
5	Je vais jouer	play
6	Je vais regarder	watch
7	Je vais manger	eat
8	Je vais acheter	buy
9	Je vais travailler	work
10	Je vais voir	see
11	Je vais boire	drink
12	Je vais devenir	become
13	Je vais voyager	travel
14	ce sera	it will be

Conditional Tense – I would like to...		
1	Je voudrais être	be
2	Je voudrais avoir	have
3	Je voudrais aller	go
4	Je voudrais faire	do
5	Je voudrais jouer	play
6	Je voudrais regarder	watch
7	Je voudrais manger	eat
8	Je voudrais acheter	buy
9	Je voudrais travailler	work
10	Je voudrais voir	see
11	Je voudrais boire	drink
12	Je voudrais devenir	become
13	Je voudrais voyager	travel
14	ce serait	it would be

Il y a		
1	Il y a	There is/are
2	Il y avait	There was/were
3	Il y aura	There will be
4	Il y aurait	There would be

Structures with infinitives		
1	J'aime aller/faire	I like going/doing
2	Je n'aime pas aller/faire	I don't like going/doing
3	il faut aller/jouer	you have to go/play
4	on peut/doit aller	you can/must go

Imperfect Tense		
1	J'étais	I was/I used to be
2	J'avais	I had/I used to have
3	C'était	It was
4	il y avait	there was/were

Present Tense		
1	Je suis	
2	J'ai	
3	Je fais	
4	Je vais	
5	J'aime	
6	Je déteste	
7	Je joue	
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4	il y avait	

Sentence Starters

1	je pense que	I think that
2	je crois que	I believe that
3	à mon avis	in my opinion
4	selon moi	in my opinion
5	je dirais que	I would say that

Connectives

1	et	and
2	ou	or
3	où	why
4	parce que	because
5	car	as
6	mais	but
7	pourtant	however
8	aussi	also

Intensifiers

1	un peu	a bit
2	assez	quite
3	très	very
4	vraiment	really
5	beaucoup	much/ a lot
6	trop	too

Adjectives

1	amusant	fun
2	intéressant	interesting
3	passionnant	exciting
4	utile	useful
5	beau	beautiful
6	fantastique	fantastic
7	incroyable	incredible
8	ennuyeux/ barbant	boring
9	fatigant	tiring
10	difficile	difficult
11	cher	expensive

Signposting Time Frames

1	l'année dernière	last year
2	la semaine dernière	last week
3	hier	yesterday
4	normalement	normally
5	d'habitude	usually
6	ce soir	this evening
7	la semaine prochaine	next week
8	l'année prochaine	next year
9	dans l'avenir	in the future

Frequency

1	tous les jours	every day
2	de temps en temps	from time to time
3	une fois par semaine	once a week
4	deux fois par mois	twice a month
5	ne...jamais	never
6	toujours	always
7	souvent	often
8	quelquefois	sometimes

Exclamations!!!

1	Quel dommage!	What a shame!
2	Quel plaisir!	What a pleasure!

Perfect Phrases For Any Essay

1	Hier je suis allé au cinéma/au stade/au restaurant/au parc/au café/à la piscine et c'était...	Yesterday I went to the cinema/stadium/restaurant/park/café/swimming pool and it was...
2	J'ai mangé une pizza/des frites/un hamburger/du jambon/du poisson/une glace et c'était...	I ate a pizza/fries/a hamburger/some ham/fish/an ice-cream and it was...
3	J'ai joué au foot/au tennis/au rugby/au golf et c'était...	I played football/tennis/rugby/golf and it was...
4	J'ai bu un coca/un jus d'orange et c'était...	I drank a coke/an orange juice and it was...

Fancy Phrases

1	je l'ai trouvé génial	I found it great
2	je me suis bien amusé(e)	I really enjoyed myself
3	j'ai tellement hâte	I'm really looking forward to it

Sentence Starters

1	je pense que	
2	je crois que	
3	à mon avis	
4	selon moi	
5	je dirais que	

Connectives

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6	ce soir	
7	la semaine prochaine	
8	l'année prochaine	
9	dans l'avenir	

Frequency

1	tous les jours	
2	de temps en temps	
3	une fois par semaine	
4	deux fois par mois	
5	ne...jamais	
6	toujours	
7	souvent	
8	quelquefois	

Exclamations!!!

1	Quel dommage!	
2	Quel plaisir!	

Perfect Phrases For Any Essay

1	Hier je suis allé au cinéma/au stade/au restaurant/au parc/au café/à la piscine et c'était...	
2	J'ai mangé une pizza/des frites/un hamburger/du jambon/du poisson/une glace et c'était...	
3	J'ai joué au foot/au tennis/au rugby/au golf et c'était...	
4	J'ai bu un coca/un jus d'orange et c'était...	

Fancy Phrases

1	je l'ai trouvé génial	
2	je me suis bien amusé(e)	
3	j'ai tellement hâte	

Present Tense		
1	Je suis	I am
2	J'ai	I have
3	Je fais	I do/make
4	Je vais	I go
5	J'aime	I like
6	Je déteste	I hate
7	Je joue	I play
8	Je mange	I eat
9	Je bois	I drink
10	Je lis	I read
11	Je vois	I see
12	J'achète	I buy
13	Je trouve	I find
14	Je travaille	I work
15	Je pense	I think
16	Je crois	I believe
17	Je dois	I have to
18	Je peux	I can
19	Je veux	I want to
20	c'est	it's

Perfect Tense		
1	Je suis allé(e)	I went
2	Je suis parti(e)	I left
3	J'ai fait	I did/made
4	J'ai aimé	I liked
5	J'ai détesté	I hated
6	J'ai joué	I played
7	J'ai mangé	I ate
8	J'ai acheté	I bought
9	J'ai trouvé	I found
10	J'ai travaillé	I worked
11	J'ai regardé	I watched
12	J'ai vu	I saw
13	J'ai bu	I drank
14	J'ai lu	I read

Il y a		
1	Il y a	There is/are
2	Il y avait	There was/were
3	Il y aura	There will be
4	Il y aurait	There would be

Imperfect Tense - I used to		
1	J'étais	... be
2	J'allais	... go
3	J'avais	... have
4	Je faisais	... do
5	Je jouais	... play
6	Je regardais	... watch
7	J'écoutais	... listen
8	Je mangeais	... eat
9	Je buvais	... drink
10	J'achetais	... buy
11	J'aimais	... like
12	C'était	It was

Future Tense		
1	Je serai	I will be
2	J'aurai	I will have
3	J'irai	I will go
4	Je ferai	I will do
5	Je jouerai	I will play
6	Je regarderai	I will watch
7	Je mangerai	I will eat
8	J'achèterai	I will buy
9	Je travaillerai	I will work
10	Je verrai	I will see
11	Je boirai	I will drink
12	Il sera	It will be

Structures with infinitives		
1	J'aime aller/faire	I like going/doing
2	Je n'aime pas aller/faire	I don't like going/doing
3	Je vais aller/jouer	I am going to go/to play
4	Je voudrais aller/jouer	I would like to go/play
5	il faut aller/jouer	you have to go/play
6	on peut/doit aller	you can/must go

Present Tense		
1	Je suis	
2	J'ai	
3	Je fais	
4	Je vais	
5	J'aime	
6	Je déteste	
7	Je joue	
8	Je mange	
9	Je bois	
10	Je lis	
11	Je vois	
12	J'achète	
13	Je trouve	
14	Je travaille	
15	Je pense	
16	Je crois	
17	Je dois	
18	Je peux	
19	Je veux	
20	c'est	

Perfect Tense		
1	Je suis allé(e)	
2	Je suis parti(e)	
3	J'ai fait	
4	J'ai aimé	
5	J'ai détesté	
6	J'ai joué	
7	J'ai mangé	
8	J'ai acheté	
9	J'ai trouvé	
10	J'ai travaillé	
11	J'ai regardé	
12	J'ai vu	
13	J'ai bu	
14	J'ai lu	

Il y a		
1	Il y a	
2	Il y avait	
3	Il y aura	
4	Il y aurait	

Imperfect Tense - I used to		
1	J'étais	
2	J'allais	
3	J'avais	
4	Je faisais	
5	Je jouais	
6	Je regardais	
7	J'écoutais	
8	Je mangeais	
9	Je buvais	
10	J'achetais	
11	J'aimais	
12	C'était	

Future Tense		
1	Je serai	
2	J'aurai	
3	J'irai	
4	Je ferai	
5	Je jouerai	
6	Je regarderai	
7	Je mangerai	
8	J'achèterai	
9	Je travaillerai	
10	Je verrai	
11	Je boirai	
12	Il sera	

Structures with infinitives		
1	J'aime aller/faire	
2	Je n'aime pas aller/faire	
3	Je vais aller/jouer	
4	Je voudrais aller/jouer	
5	il faut aller/jouer	
6	on peut/doit aller	

Sentence Starters		
1	je pense que	I think that
2	je crois que	I believe that
3	à mon avis	in my opinion
4	selon moi	in my opinion
5	je dirais que	I would say that
6	il me semble que	it seems to me that
7	d'un point de vue personnel	from a personal point of view
8	bien que je sache que	although I know that
9	à cause du fait que	due to the fact that
10	Je considèrerais que	I would consider that
11	il faut que je dise que	I have to say that

Connectives		
1	parce que	because
2	car	as
3	mais	but
4	pourtant	however
5	en revanche	however
6	néanmoins	nevertheless
7	certes	admittedly
8	aussi	also
9	donc	therefore
10	d'ailleurs	besides
11	bien que (+subj)	although
12	à moins que (+subj)	unless

Intensifiers		
1	un peu	a bit
2	assez	quite
3	très	very
4	vraiment	really
5	beaucoup	much/ a lot
6	trop	too
7	tellement	so
8	extrêmement	extremely

Adjectives		
1	amusant	fun
2	intéressant	interesting
3	passionnant	exciting
4	utile	useful
5	beau	beautiful
6	fantastique	fantastic
7	incroyable	incredible
8	ennuyeux/ barbant	boring
9	fatigant	tiring
10	difficile	difficult
11	cher	expensive

Exclamations!!!		
1	Quel dommage!	What a shame!
2	Quel plaisir!	What a pleasure!

Signposting Time Frames		
1	l'année dernière	last year
2	la semaine dernière	last week
3	hier	yesterday
4	normalement	normally
5	d'habitude	usually
6	ce soir	this evening
7	la semaine prochaine	next week
8	l'année prochaine	next year
9	dans l'avenir	in the future

Frequency		
1	tous les jours	every day
2	de temps en temps	from time to time
3	une fois par semaine	once a week
4	deux fois par mois	twice a month
5	ne...jamais	never
6	toujours	always
7	souvent	often
8	quelquefois/ parfois	sometimes

Fancy Phrases		
1	après avoir mangé	after having eaten
2	je l'ai trouvé génial	I found it great
3	je me suis bien amusé(e)	I really enjoyed myself
4	ça m'a vraiment plu	I really enjoyed it
5	ça en valait la peine	It was worth it
6	je n'aurais jamais pensé	I would never have thought
7	j'ai tellement hâte	I'm really looking forward to it
8	le jeu en vaudra la chandelle	it will be worth it

Sentence Starters

1	je pense que	
2	je crois que	
3	à mon avis	
4	selon moi	
5	je dirais que	
6	il me semble que	
7	d'un point de vue personnel	
8	bien que je sache que	
9	à cause du fait que	
10	Je considèrerais que	
11	il faut que je dise que	

Connectives

1	parce que	
2	car	
3	mais	
4	pourtant	
5	en revanche	
6	néanmoins	
7	certes	
8	aussi	
9	donc	
10	d'ailleurs	
11	bien que (+subj)	
12	à moins que (+subj)	

Intensifiers

1	un peu	
2	assez	
3	très	
4	vraiment	
5	beaucoup	
6	trop	
7	tellement	
8	extrêmement	

Adjectives

1	amusant	
2	intéressant	
3	passionnant	
4	utile	
5	beau	
6	fantastique	
7	incroyable	
8	ennuyeux/ barbant	
9	fatigant	
10	difficile	
11	cher	

Exclamations!!!

1	Quel dommage!	
2	Quel plaisir!	

Signposting Time Frames

1	l'année dernière	
2	la semaine dernière	
3	hier	
4	normalement	
5	d'habitude	
6	ce soir	
7	la semaine prochaine	
8	l'année prochaine	
9	dans l'avenir	

Frequency

1	tous les jours	
2	de temps en temps	
3	une fois par semaine	
4	deux fois par mois	
5	ne...jamais	
6	toujours	
7	souvent	
8	quelquefois/ parfois	

Fancy Phrases

1	après avoir mangé	
2	je l'ai trouvé génial	
3	je me suis bien amusé(e)	
4	ça m'a vraiment plu	
5	ça en valait la peine	
6	je n'aurais jamais pensé	
7	j'ai tellement hâte	
8	le jeu en vaudra la chandelle	

Present Tense		
1	Ich bin	I am
2	Ich habe	I have
3	Ich mache	I do/make
4	Ich gehe	I go
5	Ich fahre	I travel
6	Ich mag	I like
7	Ich hasse	I hate
8	Ich spiele	I play
9	Ich esse	I eat
10	Ich trinke	I drink
11	Ich lese	I read
12	Ich sehe	I see
13	Ich kaufe	I buy
14	Ich finde	I find
15	Ich arbeite	I work
16	Ich denke	I think
17	Ich muss	I have to
18	Ich kann	I can
19	Ich will	I want to
20	es ist	it's

Perfect Tense		
1	Ich bin gegangen	I went
2	Ich bin gefahren	I travelled
3	Ich bin geflogen	I flew
4	Ich bin geblieben	I stayed
5	Ich habe gemacht	I did/made
6	Ich habe gespielt	I played
7	Ich habe gegessen	I ate
8	Ich habe getrunken	I drank
9	Ich habe gekauft	I bought
10	Ich habe gearbeitet	I worked
11	Ich habe gesehen	I watched
12	Ich habe gelesen	I read
13	Ich habe gefunden	I found
14	ich habe besucht	I visited

Using Geben		
1	es gibt	There is/are
2	es gab	There was/were
3	es wird...geben	There will be
4	es würde...geben	There would be

Simple Past		
1	ich war	I was
2	es war	it was
3	sie waren	they were
4	ich hatte	I had
5	es gab	there was/were

Conditional Fancy		
1	ich wäre	I would be
2	es wäre	it would be
3	sie wären	they would be
4	ich hätte	I would have
5	es gäbe	there would be

Future/Conditional Tense		
ich werde/möchte....(I will/would like to)		
1	...sein	be
2	...werden	become
3	...gehen	go
4	...fahren	travel
5	...spielen	play
6	...essen	eat
7	...trinken	drink
8	...sehen	see
9	...arbeiten	work
10	...lesen	read
11	...machen	make/do
12	...besuchen	visit

Structures With Infinitives		
1	ich muss...machen	I have to do
2	ich darf...machen	I am allowed to do
3	ich kann...machen	I can do
4	ich soll...machen	I should do
5	ich will...machen	I want to do
6	man muss/kann/soll...machen	you must/can/should do

Present Tense		
1	Ich bin	
2	Ich habe	
3	Ich mache	
4	Ich gehe	
5	Ich fahre	
6	Ich mag	
7	Ich hasse	
8	Ich spiele	
9	Ich esse	
10	Ich trinke	
11	Ich lese	
12	Ich sehe	
13	Ich kaufe	
14	Ich finde	
15	Ich arbeite	
16	Ich denke	
17	Ich muss	
18	Ich kann	
19	Ich will	
20	es ist	

Perfect Tense		
1	Ich bin gegangen	
2	Ich bin gefahren	
3	Ich bin geflogen	
4	Ich bin geblieben	
5	Ich habe gemacht	
6	Ich habe gespielt	
7	Ich habe gegessen	
8	Ich habe getrunken	
9	Ich habe gekauft	
10	Ich habe gearbeitet	
11	Ich habe gesehen	
12	Ich habe gelesen	
13	Ich habe gefunden	
14	ich habe besucht	

Using Geben		
1	es gibt	
2	es gab	
3	es wird...geben	
4	es würde...geben	

Simple Past		
1	ich war	
2	es war	
3	sie waren	
4	ich hatte	
5	es gab	

Conditional Fancy		
1	ich wäre	
2	es wäre	
3	sie wären	
4	ich hätte	
5	es gäbe	

Future/Conditional Tense		
ich werde/möchte....(I will/would like to)		
1	...sein	
2	...werden	
3	...gehen	
4	...fahren	
5	...spielen	
6	...essen	
7	...trinken	
8	...sehen	
9	...arbeiten	
10	...lesen	
11	...machen	
12	...besuchen	

Structures With Infinitives		
1	ich muss...machen	
2	ich darf...machen	
3	ich kann...machen	
4	ich soll...machen	
5	ich will...machen	
6	man muss/kann/soll...machen	

Sentence Starters

1	meiner Meinung nach	in my opinion
2	meines erachtens	in my opinion
3	im Großen und Ganzen	all in all
4	ich denke, dass...	I think that
5	ich würde sagen, dass	I would say that
6	ich muss sagen, dass	I have to say that

Connectives

1	und	and
2	aber	but
3	denn	because
4	oder	or
5	jedoch	however
6	außerdem	furthermore
7	weil/da	because
8	dass	that

Intensifiers

1	ein bisschen	a bit
2	ziemlich	quite
3	sehr	very
4	wirklich	really
5	echt	genuinely
6	zu	too
7	so	so
8	ganz	totally

Adjectives

1	lustig	funny
2	interessant	interesting
3	spannend	exciting
4	nützlich	useful
5	schön	beautiful
6	toll	great
7	unglaublich	incredible
8	langweilig	boring
9	anstrengend	tiring
10	schwierig	difficult
11	teuer	expensive
12	billig	cheap

Signposting Time Frames

1	letztes Jahr	last year
2	letzte Woche	last week
3	gestern	yesterday
4	normalerweise	normally
5	gewöhnlich	usually
6	dieses Abend	this evening
7	nächste Woche	next week
8	nächstes Jahr	next year
9	in der Zukunft	in the future
10	am Wochenende	at the weekend

Frequency

1	jeden Tag	every day
2	ab und zu	from time to time
3	einmal pro Woche	once a week
4	zweimal pro Woche	twice a month
5	nie	never
6	immer	always
7	oft	often
8	manchmal	sometimes

Exclamations!!!

1	Wie Schade!	What a shame!
2	Wahnsinn!	Wow!

Fancy Phrases

1	es hat eine Menge Spaß gemacht	it was loads of fun
2	es hat sich wirklich gelohnt	it was really worth it
3	das hat mir gefallen	I liked it
4	ich freue mich schon darauf	I am already looking forward to it
5	ich werde mich amüsieren	I will enjoy myself

Perfect Past Examples

1	Letztes Wochenende bin ich ins Kino/Café/Restaurant/Stadion/Museum gegangen und es hat eine Menge Spaß gemacht.	Last weekend I went to the cinema/café/restaurant/stadium/museum and it was loads of fun.
2	Ich habe Hähnchen, Pommes und Salat gegessen und ich habe Cola getrunken. Das Essen war sehr lecker und es hat sich wirklich gelohnt. Wahnsinn!	I ate chicken, chips and salad and I drank cola. The food was very tasty and it was really worth it. Wow!

Fantastic Future Examples

1	Nächstes Jahr werde ich mit meinen Freunden nach Berlin fahren und ich freue mich schon darauf.	Next year I will travel with my friends to Berlin. I am already looking forward to it.
2	Ich möchte ins Café gehen und ich möchte Pizza essen. Ich werde mich amüsieren, weil ich Pizza liebe.	I would like to go to café and I would like to eat pizza. I will enjoy myself I love pizza.

Sentence Starters

1	meiner Meinung nach	
2	meines erachtens	
3	im Großen und Ganzen	
4	ich denke, dass...	
5	ich würde sagen, dass	
6	ich muss sagen, dass	

Connectives

1	und	
2	aber	
3	denn	
4	oder	
5	jedoch	
6	außerdem	
7	weil/da	
8	dass	

Intensifiers

1	ein bisschen	
2	ziemlich	
3	sehr	
4	wirklich	
5	echt	
6	zu	
7	so	
8	ganz	

Adjectives

1	lustig	
2	interessant	
3	spannend	
4	nützlich	
5	schön	
6	toll	
7	unglaublich	
8	langweilig	
9	anstrengend	
10	schwierig	
11	teuer	
12	billig	

Signposting Time Frames

1	letztes Jahr	
2	letzte Woche	
3	gestern	
4	normalerweise	
5	gewöhnlich	
6	dieses Abend	
7	nächste Woche	
8	nächstes Jahr	
9	in der Zukunft	
10	am Wochenende	

Frequency

1	jeden Tag	
2	ab und zu	
3	einmal pro Woche	
4	zweimal pro Woche	
5	nie	
6	immer	
7	oft	
8	manchmal	

Exclamations!!!

1	Wie Schade!	
2	Wahnsinn!	

Fancy Phrases

1	es hat eine Menge Spaß gemacht	
2	es hat sich wirklich gelohnt	
3	das hat mir gefallen	
4	ich freue mich schon darauf	
5	ich werde mich amüsieren	

Perfect Past Examples

1	Letztes Wochenende bin ich ins Kino/Café/Restaurant/Stadion/Museum gegangen und es hat eine Menge Spaß gemacht.	
2	Ich habe Hähnchen, Pommes und Salat gegessen und ich habe Cola getrunken. Das Essen war sehr lecker und es hat sich wirklich gelohnt. Wahnsinn!	

Future Tense Examples

1	Nächstes Jahr werde ich mit meinen Freunden nach Berlin fahren und ich freue mich schon darauf.	
2	Ich möchte ins Café gehen und ich möchte Pizza essen. Ich werde mich amüsieren, weil ich Pizza liebe.	

Present Tense		
1	Ich bin	I am
2	Ich habe	I have
3	Ich mache	I do/make
4	Ich gehe	I go
5	Ich fahre	I travel
6	Ich mag	I like
7	Ich hasse	I hate
8	Ich spiele	I play
9	Ich esse	I eat
10	Ich trinke	I drink
11	Ich lese	I read
12	Ich sehe	I see
13	Ich kaufe	I buy
14	Ich finde	I find
15	Ich arbeite	I work
16	Ich denke	I think
17	Ich muss	I have to
18	Ich kann	I can
19	Ich will	I want to
20	es ist	it's

Perfect Tense		
1	Ich bin gegangen	I went
2	Ich bin gefahren	I travelled
3	Ich bin geflogen	I flew
4	Ich bin geblieben	I stayed
5	Ich habe gemacht	I did/made
6	Ich habe gespielt	I played
7	Ich habe gegessen	I ate
8	Ich habe getrunken	I drank
9	Ich habe gekauft	I bought
10	Ich habe gearbeitet	I worked
11	Ich habe gesehen	I watched
12	Ich habe gelesen	I read
13	Ich habe gefunden	I found
14	ich habe besucht	I visited

Using Geben		
1	es gibt	There is/are
2	es gab	There was/were
3	es wird...geben	There will be
4	es würde...geben	There would be

Simple Past		
1	ich war	I was
2	es war	it was
3	sie waren	they were
4	ich hatte	I had
5	es gab	there was/were

Conditional Fancy		
1	ich wäre	I would be
2	es wäre	it would be
3	sie wären	they would be
4	ich hätte	I would have
5	es gäbe	there would be

Future/Conditional Tense		
ich werde/möchte....(I will/would like to)		
1	...sein	be
2	...werden	become
3	...gehen	go
4	...fahren	travel
5	...spielen	play
6	...essen	eat
7	...trinken	drink
8	...sehen	see
9	...arbeiten	work
10	...lesen	read
11	...machen	make/do
12	...besuchen	visit

Structures With Infinitives		
1	ich muss...machen	I have to do
2	ich darf...machen	I am allowed to do
3	ich kann...machen	I can do
4	ich soll...machen	I should do
5	ich will...machen	I want to do
6	man muss/kann/soll...machen	you must/can/should do

Present Tense		
1	Ich bin	
2	Ich habe	
3	Ich mache	
4	Ich gehe	
5	Ich fahre	
6	Ich mag	
7	Ich hasse	
8	Ich spiele	
9	Ich esse	
10	Ich trinke	
11	Ich lese	
12	Ich sehe	
13	Ich kaufe	
14	Ich finde	
15	Ich arbeite	
16	Ich denke	
17	Ich muss	
18	Ich kann	
19	Ich will	
20	es ist	

Perfect Tense		
1	Ich bin gegangen	
2	Ich bin gefahren	
3	Ich bin geflogen	
4	Ich bin geblieben	
5	Ich habe gemacht	
6	Ich habe gespielt	
7	Ich habe gegessen	
8	Ich habe getrunken	
9	Ich habe gekauft	
10	Ich habe gearbeitet	
11	Ich habe gesehen	
12	Ich habe gelesen	
13	Ich habe gefunden	
14	ich habe besucht	

Using Geben		
1	es gibt	
2	es gab	
3	es wird...geben	
4	es würde...geben	

Simple Past		
1	ich war	
2	es war	
3	sie waren	
4	ich hatte	
5	es gab	

Conditional Fancy		
1	ich wäre	
2	es wäre	
3	sie wären	
4	ich hätte	
5	es gäbe	

Future/Conditional Tense		
ich werde/möchte....(I will/would like to)		
1	...sein	
2	...werden	
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4	...fahren	
5	...spielen	
6	...essen	
7	...trinken	
8	...sehen	
9	...arbeiten	
10	...lesen	
11	...machen	
12	...besuchen	

Structures With Infinitives		
1	ich muss...machen	
2	ich darf...machen	
3	ich kann...machen	
4	ich soll...machen	
5	ich will...machen	
6	man muss/kann/soll...machen	

Sentence Starters

1	meiner Meinung nach	in my opinion
2	meines erachtens	in my opinion
3	im Großen und Ganzen	all in all
4	auf der einen Seite	on the one hand
5	aber auf der anderen Seite	but on the other hand
6	es scheint mir, dass	it seems to me that
7	ich denke, dass...	I think that
8	ich würde sagen, dass	I would say that
9	obwohl ich weiß, dass	although I know that
10	ich glaube, dass...	I believe that
11	ich muss sagen, dass	I have to say that

Connectives

1	und	and
2	aber	but
3	denn	because
4	sondern (neg)	but
5	jedoch	however
6	deshalb	therefore
7	trotzdem	nevertheless
8	außerdem	furthermore
9	weil/da	because
10	dass	that
11	obwohl	although
12	wenn	if/when

Intensifiers

1	ein bisschen	a bit
2	ziemlich	quite
3	sehr	very
4	wirklich	really
5	echt	genuinely
6	zu	too
7	so	so
8	ganz	totally

Adjectives

1	lustig	funny
2	interessant	interesting
3	spannend	exciting
4	nützlich	useful
5	schön	beautiful
6	toll	great
7	unglaublich	incredible
8	langweilig	boring
9	anstrengend	tiring
10	schwierig	difficult
11	teuer	expensive
12	billig	cheap

Exclamations!!!

1	Wie Schade!	What a shame!
2	Wahnsinn!	Wow!

Signposting Time Frames

1	letztes Jahr	last year
2	letzte Woche	last week
3	gestern	yesterday
4	normalerweise	normally
5	gewöhnlich	usually
6	dieses Abend	this evening
7	nächste Woche	next week
8	nächstes Jahr	next year
9	in der Zukunft	in the future

Frequency

1	jeden Tag	every day
2	ab und zu	from time to time
3	einmal pro Woche	once a week
4	zweimal pro Woche	twice a month
5	nie	never
6	immer	always
7	oft	often
8	manchmal	sometimes

Fancy Phrases

1	es hat eine Menge Spaß gemacht	it was loads of fun
2	ich habe mich wirklich amüsiert	I really enjoyed myself
3	es hat sich wirklich gelohnt	it was really worth it
4	das hat mir gefallen	I liked it
5	ich hätte nie gedacht	I would have never thought
6	je (heißer), desto besser	the (hotter) the better
7	ich freue mich schon darauf	I am already looking forward to it
8	es wird bestimmt viel Spaß machen	it will definitely be lots of fun

Sentence Starters

1	meiner Meinung nach	
2	meines erachtens	
3	im Großen und Ganzen	
4	auf der einen Seite	
5	aber auf der anderen Seite	
6	es scheint mir, dass	
7	ich denke, dass...	
8	ich würde sagen, dass	
9	obwohl ich weiß, dass	
10	ich glaube, dass...	
11	ich muss sagen, dass	

Connectives

1	und	
2	aber	
3	denn	
4	sondern (neg)	
5	jedoch	
6	deshalb	
7	trotzdem	
8	außerdem	
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11	obwohl	
12	wenn	

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1	es hat eine Menge Spaß gemacht	
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6	je (heißer), desto besser	
7	ich freue mich schon darauf	
8	es wird bestimmt viel Spaß machen	

1. Nixon's War

1	Who was Nixon?	<ol style="list-style-type: none"> Johnson decided not to re-run for election in 1968 The Republican candidate, Nixon, became president of the USA in 1969
2	What were his views on the Vietnam War?	<ol style="list-style-type: none"> Nixon promised an 'honourable peace' to end the war in Vietnam He also claimed to have a 'secret plan' to end fighting
3	What problems did Nixon face?	<ol style="list-style-type: none"> He could not win the Vietnam War using normal tactics It was too much of a risk to use nuclear weapons with North Vietnam being backed by China and the USSR If troops were withdrawn straight away communism would spread There was a growing anti-war movement in the USA

3. Why and how did the US attack Laos and Cambodia?

1	Laos	<ol style="list-style-type: none"> February 1971, the ARVN attacked North Vietnamese troops in Laos, supported by US helicopters and bombers The attack failed and communists in Laos gained more support
2	Cambodia	<ol style="list-style-type: none"> In March 1969, Nixon authorised the secret bombing of Cambodia In April 1970, Nixon ordered the invasion of Cambodia with troops The Khmer Rouge gained more support because of US tactics

2. Nixon's Strategies

1	What was Vietnamisation?	<ol style="list-style-type: none"> Nixon announced this policy on 3rd November 1969 Money would be sent to continue to equip the ARVN against the Vietcong The ARVN would be trained to a high standard to continue fighting without US troops The US soldiers could then return home
2	Pressuring S. Vietnam	<ol style="list-style-type: none"> Nixon pressurized South Vietnam's leaders to negotiate with North Vietnam
3	Negotiation	<ol style="list-style-type: none"> Nixon visited the USSR in 1970 to discuss reduction of nuclear weapons and ask them to pressure North Vietnam to end the war Nixon visited China in February 1972 and asked them to persuade North Vietnam to end the war Nixon's adviser, Henry Kissinger, negotiated with North Vietnam to bring about a ceasefire
4	Renewed Bombing	<ol style="list-style-type: none"> Nixon ordered the increased bombing of North Vietnam He also authorized the bombing of Laos and Cambodia This was aimed to disrupt the Ho Chi Minh Trail and force the communists to look for peace

4. How effective was Nixon?

1	Was Vietnamisation successful?	<ol style="list-style-type: none"> By end of 1969, 85,000 US soldiers had returned home (16%) By early 1972, it was clear that Vietnamisation was not working Vietnamisation was seen as a failure because of increased bombings
2	Did the war de-escalate?	<ol style="list-style-type: none"> In June 1972, the ARVN dropped a napalm bomb, which killed and injured innocent children – nothing had changed The fighting continued until 1975 – a further 20,500 US soldiers died
3	Was renewed bombing successful?	<ol style="list-style-type: none"> Nixon authorized 2 new bombing campaigns on North Vietnam – Operation Linebacker I in 1971 and Linebacker II in 1972 They did little to alter the eventual military outcome. However, they did have some impact in pushing North Vietnam to the negotiating table It also convinced President Thieu's South Vietnamese government that US support would continue after withdrawal of ground troops.

Key word	Definition
Khmer Rouge	
Vietnamisation	

1. Nixon's War		
1	Who was Nixon?	
2	What were his views on the Vietnam War?	
3	What problems did Nixon face?	

2. Nixon's Strategies		
1	What was Vietnamisation?	
2	Pressuring S. Vietnam	
3	Negotiation	
4	Renewed Bombing	

Key word	Definition
Khmer Rouge	
Vietnamisation	

3. Why and how did the US attack Laos and Cambodia?		
1	Laos	
2	Cambodia	

4. How effective was Nixon?		
1	Was Vietnamisation successful?	
2	Did the war de-escalate?	
3	Was renewed bombing successful?	

5. Opposition to the War

1	The USA wasn't winning	<ol style="list-style-type: none"> The Vietcong and North Vietnamese army were still strong The USA was not close to winning the war despite all the lives lost and money spent - Events like the Tet Offensive proved this
2	US politicians	<ol style="list-style-type: none"> Some politicians started arguing that the money should be spent on domestic issues such as education, housing and healthcare
3	Lack of support for S. Vietnam	<ol style="list-style-type: none"> Many Americans felt that the government of South Vietnam was corrupt and brutal Photographs of ARVN tactics (like the Tet photograph) showed their brutality
4	The Draft System	<ol style="list-style-type: none"> The US army gained new recruits through the draft system. This was a lottery based on birthday and fitness for service Nearly 2 million men were drafted into the US army between 1964 and 1972 There was intense hatred of this system as it unfairly recruited men from poorer backgrounds Some people began to refuse or run away from the draft when their name was called . Many burned their draft cards
5	The Civil Rights Movement	<ol style="list-style-type: none"> Civil rights leaders like Martin Luther King spoke out against the war's cost They also objected to how the draft system disproportionately called black Americans into the army Mohammed Ali was famously arrested for refusing the draft when he was called
6	Casualties	<ol style="list-style-type: none"> There was shock at the number of dead and injured US soldiers Around 300 US soldiers died each week The average age of a US soldier killed was just 23
7	Student protest	<ol style="list-style-type: none"> Opposition to the war was particularly strong among college and university students To them the war symbolised the control and authority of the government Hippie culture was popular at this time and its key themes were peace and love

6. Anti-war protests

1	How did people protest ?	<ol style="list-style-type: none"> In 1968 and 1969 there were many anti-war demonstrations The largest anti-war protest in US history took place in Washington on 15th November 1969 – 500,000 people Sometimes the protests ended in violence, when police and the students clashed
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7. The Kent State Shootings

1	What happened at Kent State?	<ol style="list-style-type: none"> Students at Kent State University arranged a protest for 4th May 1970 after the US invasion of Cambodia Around 3000 people gathered at the university (1500 demonstrators and 1500 bystanders) The Demonstration turned violent – rocks thrown by students and tear gas fired by the National Guard The National Guard opened fire on the crowd – 4 students killed and 9 more injured
2	What was the impact of the shootings?	<ol style="list-style-type: none"> News of the shootings shocked the nation Across the USA, colleges and universities closed as 2 million students refused to attend classes A similar incident happened on 15th May at Jackson State College, killing 2 students and injuring 12.

Key word	Definition
Draft	A system of recruiting soldiers for the army involuntarily
Draft Dodging	When men would refuse to report for duty after being drafted

8. Impact of the Media

1	How did new technology impact how the war was reported?	<ol style="list-style-type: none"> By 1961, 93% of American homes had a TV and it became the main way people were getting their news New technology such as lightweight video cameras and voice recorders made news reporting easier The full-colour horror of war could be seen on American TV
2	How did the government try to control the media?	<ol style="list-style-type: none"> At first media coverage was positive, focusing on the brave US troops Independent reporters were flown into the war zone b helicopter and could report what they wanted Every day, the US army met with the journalists to update them on the progress of war As the war progressed, journalists joked that the army officials were covering up details. They started to call the briefings 5 O'clock follies
3	Impact of the media following the Tet Offensive	<ol style="list-style-type: none"> This shocked Americans who didn't realise how brutal the fighting was The trusted newsreader Walter Cronkite said that the only way out of the war was to negotiate peace
4	How did the media influence people's opinions?	<ol style="list-style-type: none"> Coverage of events like the My Lai massacre showed the poor behaviour of the troops The New York Times published leaked secret reports about the war in June 1971 Life magazine published the names and faces of 242 US troops killed in one week in June 1969
5	What was the Watergate scandal?	<ol style="list-style-type: none"> President Nixon was linked to a US government burglary at the Democrat offices When his role was discovered he was forced to resign It let many to question the government further

5. Opposition to the War

- 1 The USA wasn't winning
- 2 US politicians
- 3 Lack of support for S. Vietnam
- 4 The Draft System
- 5 The Civil Rights Movement
- 6 Casualties
- 7 Student protest

6. Anti-war protests

1 How did people protest?

7. The Kent State Shootings

1 What happened at Kent State?

2 What was the impact of the shootings?

Key word	Definition
Draft	
Draft Dodging	

8. Impact of the Media

- 1 How did new technology impact how the war was reported?
- 2 How did the government try to control the media?
- 3 Impact of the media following the Tet Offensive
- 4 How did the media influence people's opinions?
- 5 What was the Watergate scandal?

9. The Paris Peace Agreement

1	When did peace talks begin?	<ol style="list-style-type: none"> 1. January 1969 – as soon as Nixon became president 2. By December 1969 public peace talks broke down over disagreements 3. In February 1970 secret peace talks resumed
2	Who was involved in the talks?	<ol style="list-style-type: none"> 1. Nixon’s key advisor Henry Kissinger 2. North Vietnam negotiator Le Duc Tho
3	When was it signed?	<ol style="list-style-type: none"> 1. 27th January 1973
4	What was agreed?	<ol style="list-style-type: none"> 1. Immediate ceasefire 2. All captured prisoners would be released within 60 days 3. All US troops withdrawn within 60 days 4. Free elections would be held in South Vietnam

10. The Fall of Saigon

1	What happened after peace was signed?	<ol style="list-style-type: none"> 1. Nixon promised to support South Vietnam with money and weapons after the troops left 2. The US government refused to support Nixon’s plans
2	How did the ARVN cope without the US funding?	<ol style="list-style-type: none"> 1. The Communist forces from North Vietnam attacked in December 1974 2. A wave of South Vietnamese refugees called the Convoy of Tears travelled to Saigon 3. By April 1975, Saigon had fallen to the Communists 4. It was renamed Ho Chi Minh City and Vietnam was unified country under communist control
3	What was the impact of the Fall of Saigon?	<ol style="list-style-type: none"> 1. The fall of Saigon signaled the end of the US involvement in Vietnam - remaining officials fled in helicopters 2. It was a dramatic and embarrassing way for the Vietnam War to end

11. Impact of War for the US

1	How much did the war cost?	<ol style="list-style-type: none"> 1. The US government reported they spent \$170 billion on the war 2. There was an added cost of benefits and pensions paid to veterans and the widows of soldiers 3. Johnson had to divert money away from his Great Society Project, which hindered their effectiveness
2	How many US deaths?	<ol style="list-style-type: none"> 1. Around 58,000 US soldiers were killed in the war 2. 300,000 soldiers were wounded
3	What happened to soldiers returning home?	<ol style="list-style-type: none"> 1. Many soldiers faced negative reactions from anti-war public and those Americans who saw them as having lost 2. Many soldiers were affected psychologically by the horrors they’d seen 3. Around 30% of soldiers used heroine in the war and many returned with drug addictions
4	How did it affect the USA’s reputation?	<ol style="list-style-type: none"> 1. At home, the war caused a split in US society with many Americans forming a deep suspicion and distrust of the government 2. The US reputation as a superpower was damaged 3. The US reputation as a leader of freedom and peace was damaged 4. The war proved that the US could not contain communism – it failed to stop Vietnam. Laos and Cambodia also had communist takeovers 5. Domino Theory proved wrong when Thailand didn’t become communist

12. Impact of War for Vietnam

1	How many Vietnamese deaths and casualties were there?	<ol style="list-style-type: none"> 1. It is hard to give accurate figures because neither government kept good records 2. It is estimated around 1 million Vietnamese soldiers (North and South) were killed and 2 million wounded 3. Estimated 2 million Vietnamese civilians killed and 5 million injured
2	What were the social effects of the war?	<ol style="list-style-type: none"> 1. About 11 million people became refugees after their homes were destroyed 2. Refugees set up camp near US bases but poverty, drug abuse and prostitution were common here 3. Around 100,000 children are believed to have been born from relationships between Vietnamese women and US soldiers 4. In 1975, around 3000 of these infants adopted around the world 5. The remaining children faced difficult lives and some were sold as cheap labour 6. Over a million Vietnamese civilians moved away from the country in 1975 to escape communist rule
3	What was the environmental cost of the war?	<ol style="list-style-type: none"> 1. In 1969 alone, Agent Orange was used to kill over 1 million hectares of forest 2. Between 1962 and 1969 300,000 hectares of farmland was sprayed with Agent Blue, leaving it useless 3. A large number of soldiers developed cancer and other conditions from being in contact with the chemical weapons. 4. There are still children in Vietnam growing up with diseases and disabilities caused by the chemicals in the soil 5. Between 1964 and 1973m over 7 million tonnes of bombs were dropped – this destroyed roads, bridges and irrigation systems that watered farms 6. There are a large number of unexploded bombs that still cause injuries today
4	How did it affect Vietnam politically?	<ol style="list-style-type: none"> 1. Vietnam continued to face hostility from the USA 2. President Ford (after Nixon) opposed Vietnam joining the UN, isolating them from the world community 3. Although Vietnam was unified, many who lived in the south resented the communist rule that was imposed on them

9. The Paris Peace Agreement

1	When did peace talks begin?	
2	Who was involved in the talks?	
3	When was it signed?	
4	What was agreed?	

10. The Fall of Saigon

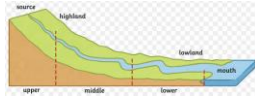



1	What happened after peace was signed?	
2	How did the ARVN cope without the US funding?	
3	What was the impact of the Fall of Saigon?	

12. Impact of War for Vietnam

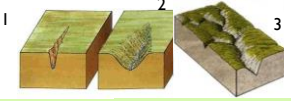
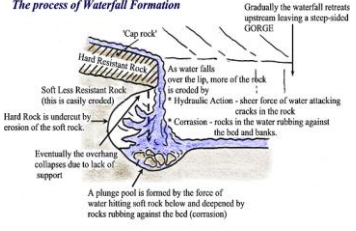
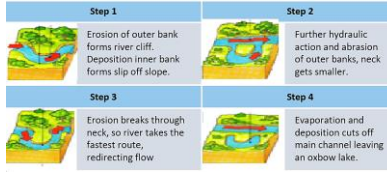
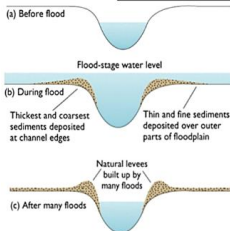
11. Impact of War for the US

1	How much did the war cost?	
2	How many US deaths?	
3	What happened to soldiers returning home?	
4	How did it affect the USA's reputation?	

1	How many Vietnamese deaths and casualties were there?	
2	What were the social effects of the war?	
3	What was the environmental cost of the war?	
4	How did it affect Vietnam politically?	

A. The shape of river valleys changes as rivers flow downstream: The long profile and changing cross profile of a river and its valley		
1	Long profile	Shows the height and gradient of a river from its source to mouth. Often depicted as a diagram:  Useful to illustrate the upper, middle and lower course of the river.
2	Upper course	The upper section of a river and its valley. Includes the source. Usually located on high land where rainfall is plentiful. Dominant process is erosion as the river tries to 'cut down' to sea level (also known as base level). Most erosional landforms are found here, such as waterfalls and V shaped valleys. Has a steep gradient and a narrow valley.
3	Middle course	The middle section of the river and its valley. Found on lower land. Processes of both erosion <u>and</u> deposition are active here. Landforms such as meanders and ox-bow lakes are commonly found. Here the river channel and valley are wider and the gradient is more moderate.
4	Lower course	The final stage in the long profile. Located towards the mouth of the river on low-lying, flat land. Deposition is the dominant process creating landforms such as levees, floodplains and estuaries. As the river reaches its end the gradient becomes gentle and the river and its valley much wider.
5	Cross profile	Shows the shape of the river channel and/or valley from one side changes drastically! Again, often show Upper  Middle  Lower 
6	Fluvial processes	Processes of erosion, transportation and deposition that occur within a river system. They shape the river and its valley.

A. The shape of river valleys changes as rivers flow downstream: Fluvial Processes		
1	Erosion	Hydraulic Action: This is the force of the water in the channel hitting against the bed and banks, gradually wears them away – particularly occurs at high-velocity flows. Abrasion: This is the scraping away of the river bed and banks by stones picked up and carried in the rivers flow. Like a sandpaper effect. Attrition: Rocks bang against each other, gradually breaking down (rocks become smaller, smoother and less angular as attrition occurs) Solution: The dissolving of minerals in the rocks of the bed and banks which are carried away in solution in the water. Rocks such as limestone are easily dissolved. Vertical erosion: Occurs mostly in the upper course where the river is cutting down to base/sea level. Deepens the river valley and creates a 'V' shape.
2	Transportation	Lateral erosion: Occurs mainly in the middle and lower course. Here the river cuts sideways widening the channel and the valley. Traction: Large particles rolled along the river bed by the force of the water. Saltation: A bouncing or hopping motion by pebbles too heavy to be suspended. Suspension: Particles suspended within the water. Solution: Chemicals dissolved in the water.
3	Deposition	Involves the dropping of sediment that has been transported by the river. River sediment is deposited in low flow conditions when the river loses energy and the velocity is so slow that the river can no longer carry the sediment load. Usually happens on the inside bend of a meander, at the estuary and mouth where tidal influences slow the river flow or anywhere along the river's course at times of low discharge.

B. Distinctive fluvial landforms result from different physical processes		
1	Characteristics and formation of landforms resulting from erosion.	Interlocking spurs, waterfalls and gorges  The process of Waterfall Formation 
2	Characteristics and formation of landforms resulting from erosion and deposition.	Meanders and ox-bow lakes 
3	Characteristics and formation of landforms resulting from deposition.	Levees, flood plains and estuaries. 

A. The shape of river valleys changes as rivers flow downstream: The long profile and changing cross profile of a river and its valley

1	Long profile	<p>Useful to illustrate the upper, middle and lower course of the river.</p>
2	Upper course	
3	Middle course	
4	Lower course	
5	Cross profile	
6	Fluvial processes	

A. The shape of river valleys changes as rivers flow downstream: Fluvial Processes

1	Erosion	
2	Transportation	
3	Deposition	

B. Distinctive fluvial landforms result from different physical processes

1	Characteristics and formation of landforms resulting from erosion.	<p>Interlocking spurs, waterfalls and gorges</p> <ol style="list-style-type: none"> The river uses its load to cut into the bedrock (vertical erosion). Material loosened by weathering is washed into the river increasing its erosive The river takes a winding path due to projections of hard rock. These form interlocking spurs; the river's forced to wind round them <p><i>The process of Waterfall Formation</i></p> <p>Gradually the waterfall retreats upstream leaving a step-sided GORGE</p> <p>As water falls over the lip, more of the rock is eroded by Hydraulic Action - sheer force of water attacking cracks in the rock</p> <p>Corrosion - rocks in the water rubbing against the bed and banks</p> <p>Eventually the overhang collapses due to lack of support</p> <p>A plunge pool is formed by the force of water hitting soft rock below and deepened by rocks rubbing against the bed (corrosion)</p>
2	Characteristics and formation of landforms resulting from erosion and deposition.	<p>Meanders and ox-bow lakes</p> <p>Step 1 Erosion of outer bank forms river cliff. Deposition inner bank forms slip off slope.</p> <p>Step 2 Further hydraulic action and abrasion of outer banks, neck gets smaller.</p> <p>Step 3 Erosion breaks through neck, so river takes the fastest route, redirecting flow</p> <p>Step 4 Evaporation and deposition cuts off main channel leaving an ox-bow lake.</p>
3	Characteristics and formation of landforms resulting from deposition.	<p>Levees, flood plains and estuaries.</p> <p>(a) Before flood</p> <p>Flood-stage water level</p> <p>(b) During flood</p> <p>Thickest and coarsest sediments deposited at channel edges</p> <p>Thin and fine sediments deposited over outer parts of floodplain</p> <p>Natural levees / built up by many floods</p> <p>(c) After many floods</p>

B. B. Distinctive fluvial landforms result from different physical processes: Example: River Tees		
1	An example of a river valley in the UK to identify its major landforms or erosion and deposition.	
2	Location and Background	Located in the North of England and flows 137km from the Pennines to the North Sea (Tees estuary) at Red Car.
2	Upper course	The source is located at Tees Head, close to Cross Fell-altitude 893m ASL. Features include V-shaped valley, interlocking spurs, rapids and waterfalls. Highforce Waterfall-located close to Forest-in-Teesdale-drops 22m and consists of harder Whinstone cap rock with underlying softer limestone. An impressive 700m gorge has formed in front of the falls.
3	Middle course	Here the gradient becomes more moderate and the valley widens. Features include meanders and ox-bow lakes created by lateral erosion and deposition. The meander near Yarm encloses the town.
4	Lower course	Greater deposition creates features such as floodplains & levees near Darlington. Mudflats form due to deposition at the river's estuary. Some areas of the estuary are designated SSSI's but there is also plenty of industry at the mouth of the river.

C. Different management strategies can be used to protect river landscapes from the effects of flooding.	
1	<p>How physical and human factors affect the flood risk: Precipitation, geology, relief and land use</p> <p>Physical: Prolong & heavy rainfall Long periods of rain causes soil to become saturated leading to runoff and increased flood risk.</p> <p>Physical: Geology Impermeable rocks cause surface runoff to increase river discharge. Permeable rocks allow water to pass through them and porous rocks absorb/hold water so reduce river discharge.</p> <p>Physical: Relief Steep-sided valleys channel water to flow quickly into rivers thus increasing discharge and flood risk.</p> <p>Human: Land Use Tarmac and concrete are impermeable. This prevents infiltration & causes surface runoff. Deforestation reduces interception and increases soil erosion. This causes surface runoff and increases flood risk.</p>
2	<p>The use of Hydrographs to show the relationship between precipitation and discharge</p> <p>▲ Figure 11.42 A typical flashy response hydrograph</p>

C. Different management strategies can be used to protect river landscapes from the effects of flooding.		
1	The costs and benefits of the following management strategies: Soft Engineering	<p>Floodplain zoning-restrict land use to certain locations. Place low risk uses such as sports fields in high risk areas.</p> <p>River restoration – return river to original course e.g. River Quaggy. Work to understand natural processes.</p> <p>Flood warnings and preparation-Environment Agency warns those in high risk areas which allows people/councils etc. to prepare for flood events.</p> <p>Planting trees-Tree planting within the catchment increases interception and absorption of water by trees. This reduces the speed/amount of runoff.</p>
2	The costs and benefits of the following management strategies: Hard Engineering	<p>Dams and reservoirs – regulate river flow and allow water to be held back during times of high flow.</p> <p>Straightening Channel – increases velocity to remove flood water; can create flooding issues downstream.</p> <p>Embankments (Artificial Levees) – heightens river banks so flood water is contained.</p> <p>Flood relief channel – man made channel to by-pass an urban area e.g. Jubilee River.</p>
C. Different management strategies can be used to protect river landscapes from the effects of flooding.		
1	An example of a flood management scheme in the UK to show: Why the scheme was required.	The Jubilee River is a relief channel for the River Thames in south-east England. The area is part of the Thames flood plain and prone to flooding. It contains the royal settlement of Windsor, as well as Eton, home of a prestigious public school. Given the high-value property in this area, the EA decided to increase the level of flood protection.
2	Management Strategy - 2002	Funded by the Environment Agency (cost £10 million.) It is the UK's largest artificial channel (12km long and 50 m wide). The channel was designed to look like a natural river, so it has meanders and shallow reed beds and a nature reserve with bird hides has been created in the area. It has five weirs (large dams) along its course. The Jubilee River effectively diverts water from the River Thames and prevents the Thames from overflowing its banks.
3	Social, Economic and Environmental Issues	<p>Social -Is it ethical to protect some properties at the expense of others?</p> <p>Economic – cost £10 million, continual repair costs. Homes and businesses flooded downstream.</p> <p>Environmental – Flooding downstream. Natural ecosystems disrupted. Algae collecting behind the weirs. Concrete weirs are unattractive.</p>

B. B. Distinctive fluvial landforms result from different physical processes: Example: River Tees

1	An example of a river valley in the UK to identify its major landforms or erosion and deposition.	
2	Location and Background	
2	Upper course	
3	Middle course	
4	Lower course	

C. Different management strategies can be used to protect river landscapes from the effects of flooding.

1	How physical and human factors affect the flood risk: Precipitation, geology, relief and land use	
2	The use of Hydrographs to show the relationship between precipitation and discharge	<p>▲ Figure 11.42 A typical flashy response hydrograph</p>

C. Different management strategies can be used to protect river landscapes from the effects of flooding.

1	The costs and benefits of the following management strategies: Soft Engineering	
2	The costs and benefits of the following management strategies: Hard Engineering	
C. Different management strategies can be used to protect river landscapes from the effects of flooding.		
1	An example of a flood management scheme in the UK to show: Why the scheme was required.	
2	Management Strategy - 2002	
3	Social, Economic and Environmental Issues	

1) Abrasion Rocks carried along by the river wear down the river bed and banks.

2) Attrition Rocks being carried by the river smash together and break into smaller, smoother and rounder particles.

3) Cross profile The side to side cross-section of a river channel and/or valley. .

4) Dam and reservoir A barrier (made on earth, concrete or stone) built across a valley to interrupt river flow and create a man-made lake (reservoir) which stores water and controls the discharge of the river.

5) Discharge The quantity of water that passes a given point on a stream or river-bank within a given period of time. .

6) Embankments Raised banks constructed along the river; they effectively make the river deeper so it can hold more water. They are expensive and do not look natural but they do protect the land around them. .

7) Estuary The tidal mouth of a river where it meets the sea; wide banks of deposited mud are exposed at low tide.

8) Flood Occurs when river discharge exceeds river channel capacity and water spills out of the channel onto the floodplain and other areas.

9) Flood plain The relatively flat area forming the valley floor on either side of a river channel, which is sometimes flooded.

10) Flood plain zoning This attempts to organise the flood defences in such a way that land that is near the river and often floods is not built on. This could be used for pastoral farming, playing fields etc. The areas that rarely get flooded would therefore be used for houses, transport and industry .

11) Flood relief channels Building new artificial channels which are used when a river is close to maximum discharge. They take the pressure off the main channels when floods are likely, therefore reducing flood risk.

12) Flood risk The predicted frequency of floods in an area.

13) Flood warning Providing reliable advance information about possible flooding. Flood warning systems give people time to remove possessions and evacuate areas.

14) Fluvial processes Processes relating to erosion, transport and deposition by a river.

15) Gorge A narrow, steep sided valley, often formed as a waterfall retreats upstream.

16) Hard engineering Involves the building of entirely artificial structures using various materials such as rock, concrete and steel to reduce, disrupt or stop the impact of river processes.

17) Hydraulic action The force of the river against the banks can cause air to be trapped in cracks and crevices. The pressure weakens the banks and gradually wears it away. .

18) Hydrograph A graph which shows the discharge of a river, related to rainfall, over a period of time.

19) Interlocking spurs A series of ridges projecting out on alternate sides of a valley and around which a river winds its course.

20) Landscape An extensive area of land regarded as being visually and physically distinct.

21) Lateral erosion Sideways erosion by a river on the outside of a meander channel. It eventually leads to the widening of the valley and contributes to the formation of the flood plain.

22) Levees Embankment of sediment along the bank of a river. It may be formed naturally by regular flooding or be built up by people to protect the area against flooding.

23) Long profile The gradient of a river, from its source to its mouth.

24) Meander A pronounced bend in a river

25) Ox-bow lake An arc-shaped lake which has been cut off from a meandering river.

26) Precipitation Moisture falling from the atmosphere - as rain, hail, sleet or snow.

25) Ox-bow lake An arc-shaped lake which has been cut off from a meandering river.

26) Precipitation Moisture falling from the atmosphere - as rain, hail, sleet or snow.

27) Saltation Particles bouncing down the river bed.

28) Soft engineering Involves the use of the natural environment surrounding a river, using schemes that work with the river's natural processes. Soft engineering is usually much cheaper and offers a more sustainable option as it does not interfere directly with the river's flow.

29) Solution Soluble particles are dissolved into the river.

30) (Channel) straightening Removing meanders from a river to make the river straighter. Straightening the river (also called channelising) allows it to carry more water quickly downstream, so it doesn't build up and is less likely to flood

31) Suspension Fine solid material held in the water while the water is moving

32) Traction The rolling of boulders and pebbles along the river bed.

33) Vertical erosion Downward erosion of a river bed.

34) Waterfall Sudden descent of a river or stream over a vertical or very steep slope in its bed. It often forms where the river meets a band of softer rock after flowing over an area of more resistant material.



Subject: Geography

Topic: River Landscapes in the UK

Year Group: 10

enjoy
learn
succeed

1) Abrasion
2) Attrition
3) Cross profile
4) Dam and reservoir
5) Discharge
6) Embankments
7) Estuary
8) Flood

9) Flood plain
10) Flood plain zoning
11) Flood relief channels
12) Flood risk
13) Flood warning
14) Fluvial processes
15) Gorge
16) Hard engineering

17) Hydraulic action
18) Hydrograph
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21) Lateral erosion
22) Levees
23) Long profile
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25) Ox-bow lake
26) Precipitation

25) Ox-bow lake
26) Precipitation
27) Saltation
28) Soft engineering
29) Solution
30) (Channel) straightening
31) Suspension
32) Traction
33) Vertical erosion
34) Waterfall

Self-quizzing



1

Identify knowledge

Identify knowledge/content you wish to cover.



2

Review and create

Spend around 5-10 minutes reviewing content (knowledge organisers/class notes/text book)



3

Cover and answer

Cover up your knowledge and answer the questions from memory.

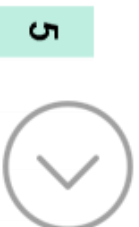
Take your time and where possible answer in full sentences.



4

Self mark & reflect

Go back to the content and self mark your answers in **green** pen.



5

Next time

Revisit the areas where there were gaps in knowledge, and include these same questions next time.

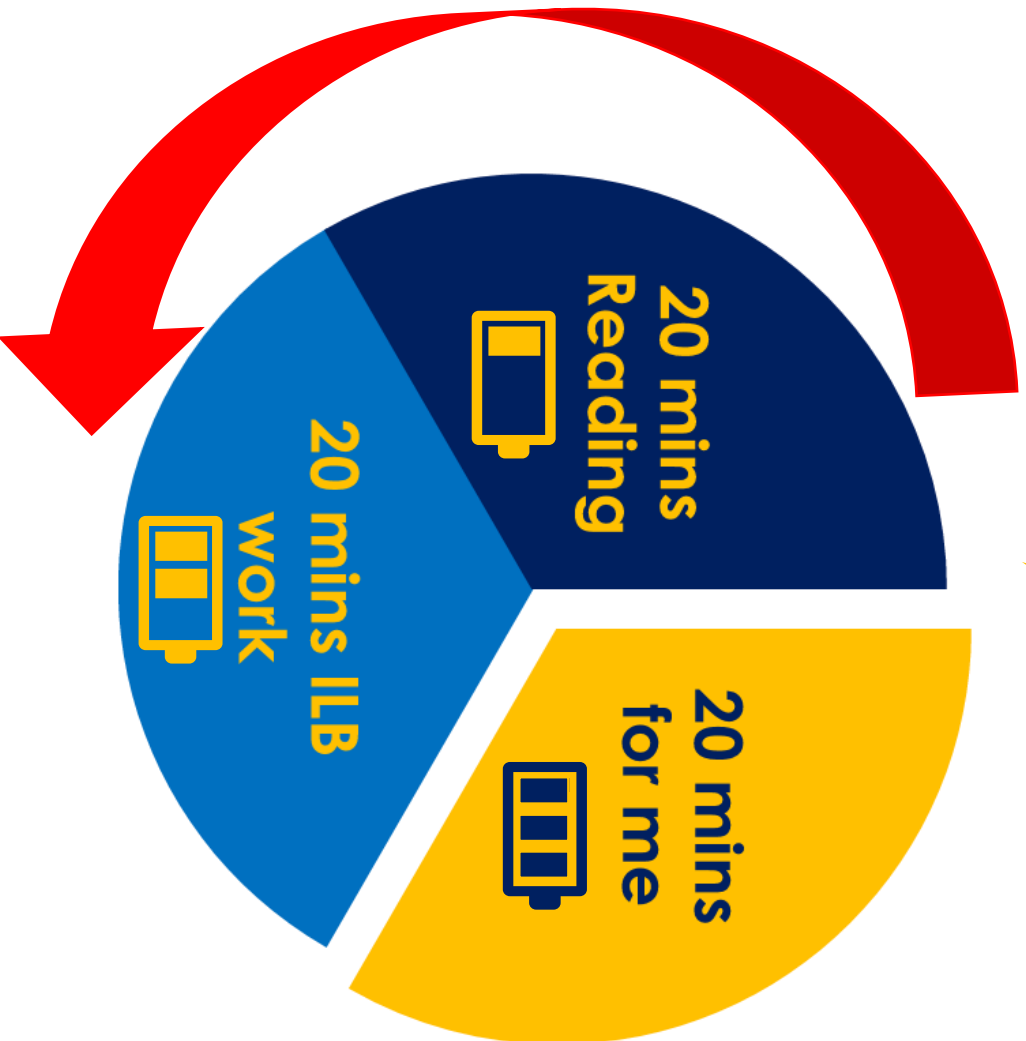
Create x10 questions on the content (if your teacher has not provided you with questions)

Ensure that you complete all subjects and all topics – not just the subjects you enjoy the most of find easiest.
Practice makes perfect!

Use this table to help you keep track of the knowledge organisers you have self-quizzed on and checked this half term. Blank versions follow every organiser.

Week 1	Which Subject/Topic?	Week 2	Which Subject/Topic?
Day 1		Day 1	
Day 2		Day 2	
Day 3		Day 3	
Day 4		Day 4	
Day 5		Day 5	

The Beckfoot Power ⚡ Hour



The Beckfoot Power Hour is a way to help you build positive routines around your independent learning. Little and often is the key!

Your Power Hour should include three chunks: 20 minutes of **reading**; 20 minutes of **Revise Like a Beckfooter** activities in your ILB; and at least 20 minutes of **something you really enjoy** as a reward at the end.

Building habits like this will boost your academic performance and help support your mental wellbeing at the same time.

Have a go at building a Power Hour into your day as often as you can. We would suggest **5 times a week** is the optimum amount.

Flash Cards



1

Identify Knowledge

What are you creating flash cards on?

Do you have your knowledge organizer?

Use your book to look at previous misconceptions from whole class feedback.



2

Colour coding

Use different coloured flash cards for different topics. This helps with organization NOT recall

1 Question per flashcard.

Making them concise and clear.

Use a one word prompt, so that you can recall as much as you can.

No extended answer questions.



3

Designing



4

Using

Write your answers down, then check. Or say your answers out loud. This really clearly shows the gaps in your knowledge.

Do not just copy & re-read.

Shuffle the cards each time you use them.



5

Feedback

How have you performed when you look back at your answers?

Is there anything you need to revisit in more detail?

Is your knowledge secure? If so, move onto applying knowledge in that area in specific extended exam questions.

Use the Leitner system to use flash cards every/day.

Avoid answering the questions in your head: research shows that when you read a question and answer it in your head, you aren't actually testing your knowledge effectively. Say the answer out loud or write it down before checking it against the card, so you are truly testing if you can explain the answer properly

Use this table to help you keep track of the flash cards you have made and used this half term. There are some flash-card templates for you to use overleaf.

Week 1	Which Subject/Topic?	Week 2	Which Subject/Topic?
Day 1		Day 1	
Day 2		Day 2	
Day 3		Day 3	
Day 4		Day 4	
Day 5		Day 5	

Mind-Maps



1

Identify knowledge

Select a topic you wish to revise. Have your class notes/knowledge organisers ready.

2

Identify sub topics

Place the main topic in the centre of your page and identify sub topics that will branch off.

3

Branch off

Branch of your sub topics with further detail.
Try not to fill the page with too much writing.

4

Use images & colour

Use images and colour to help topics stick into your memory.

5

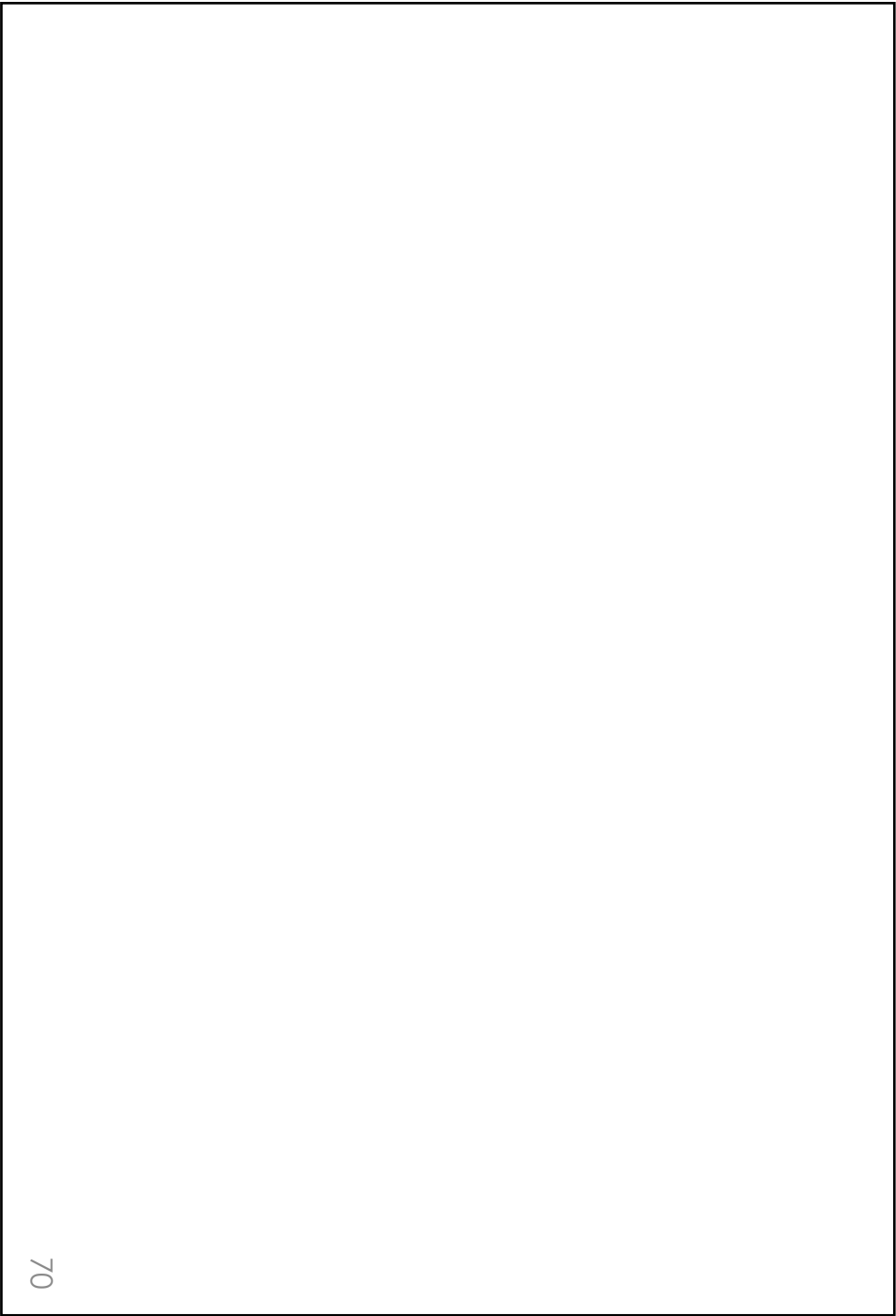
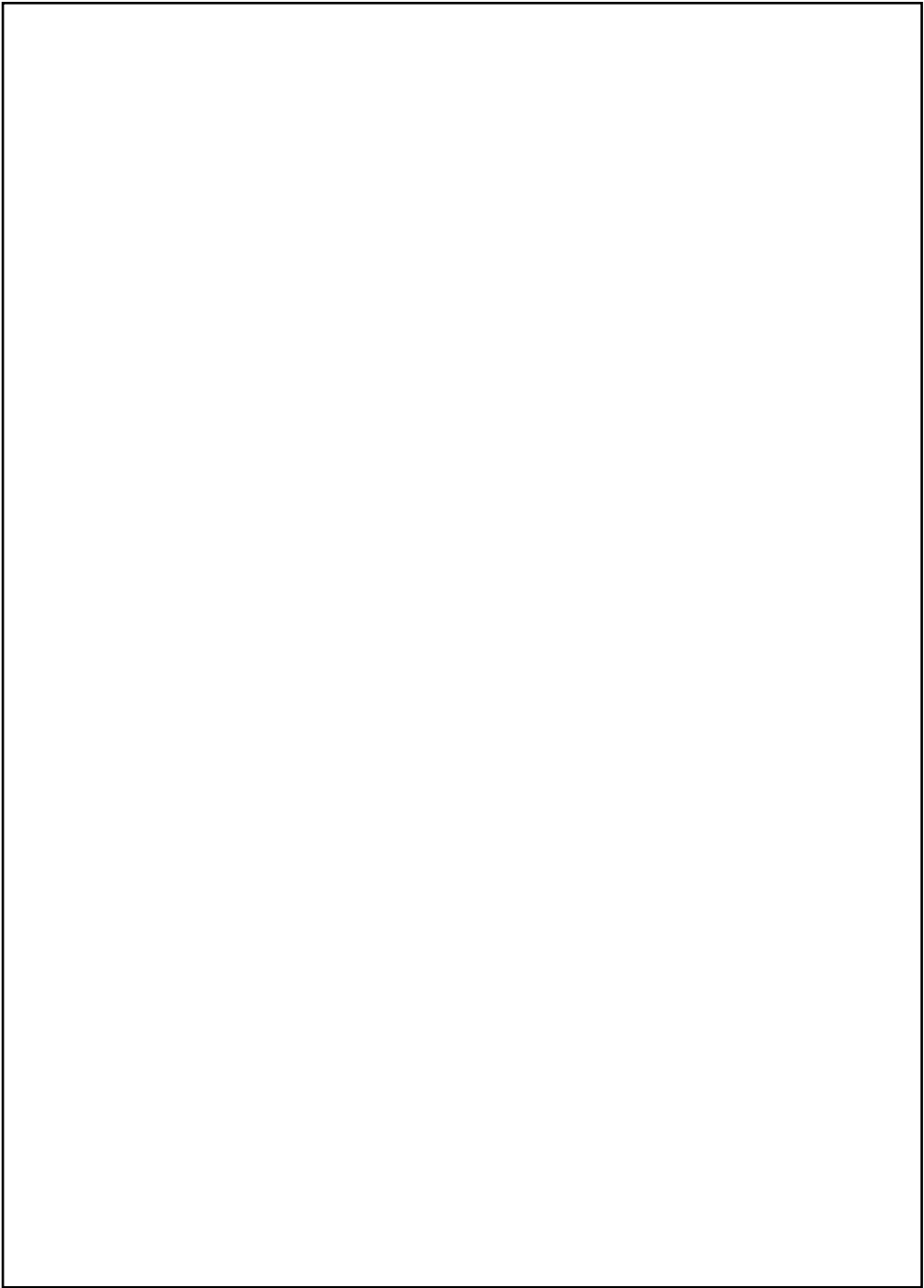
Put it somewhere visible

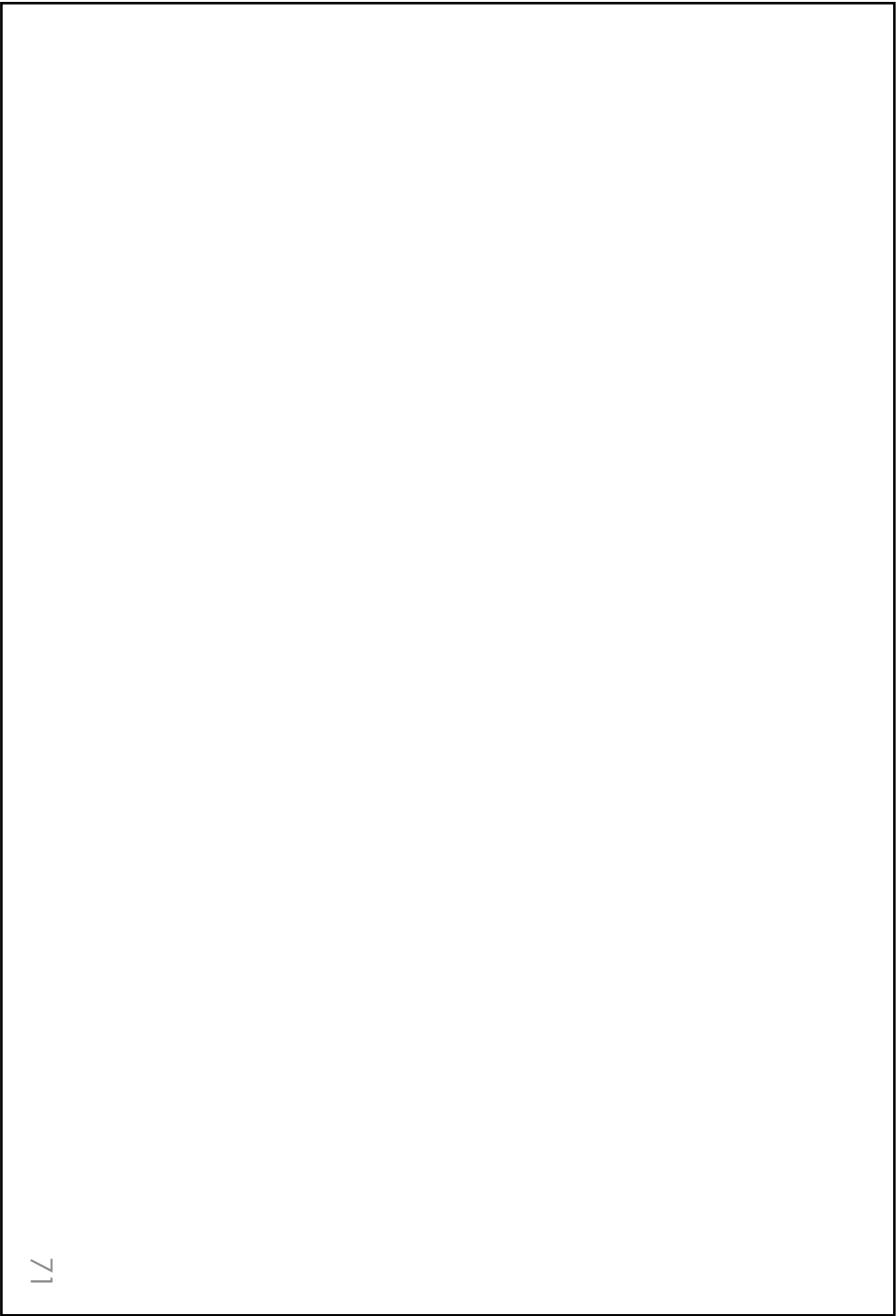
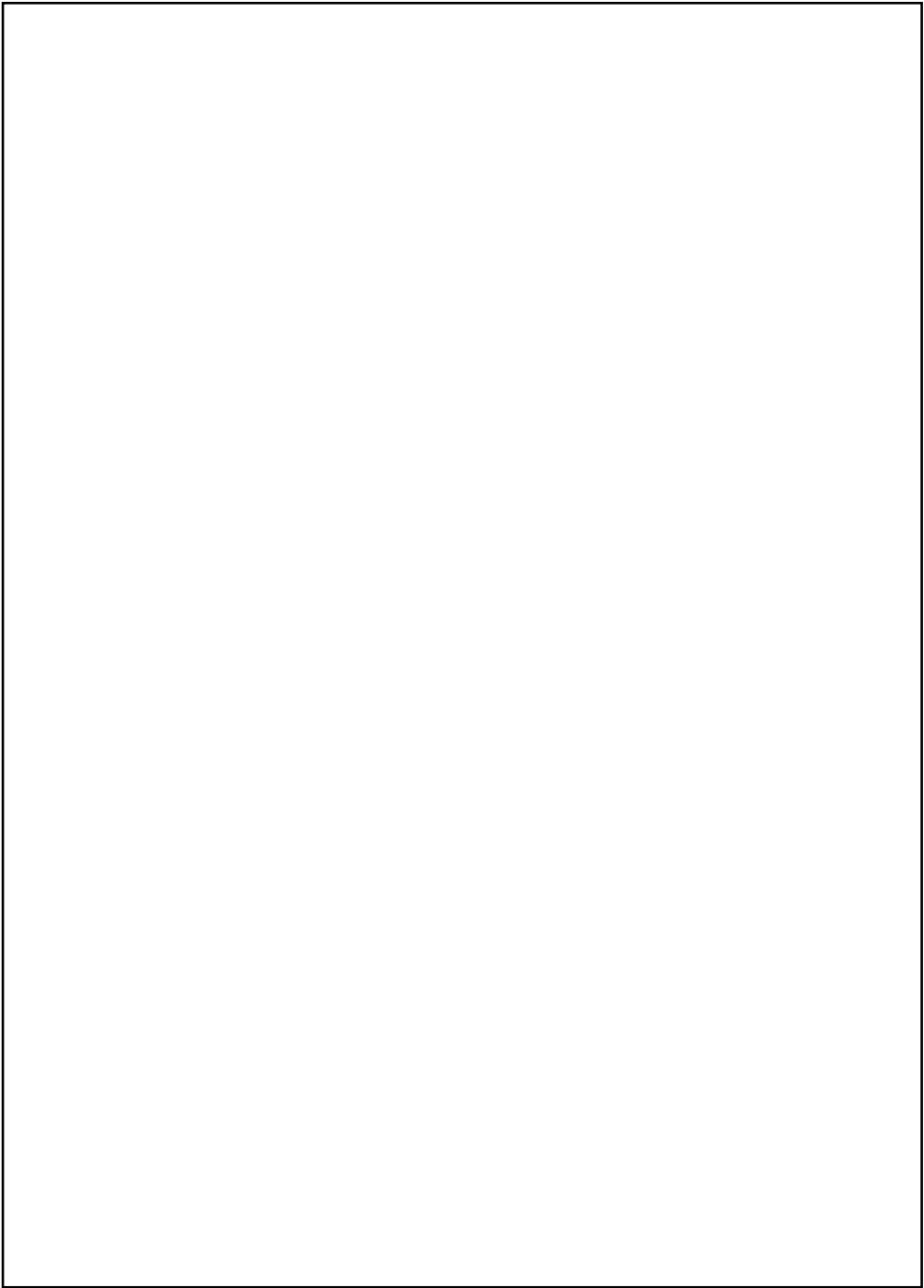
Place completed mind maps in places where you can see them frequently.

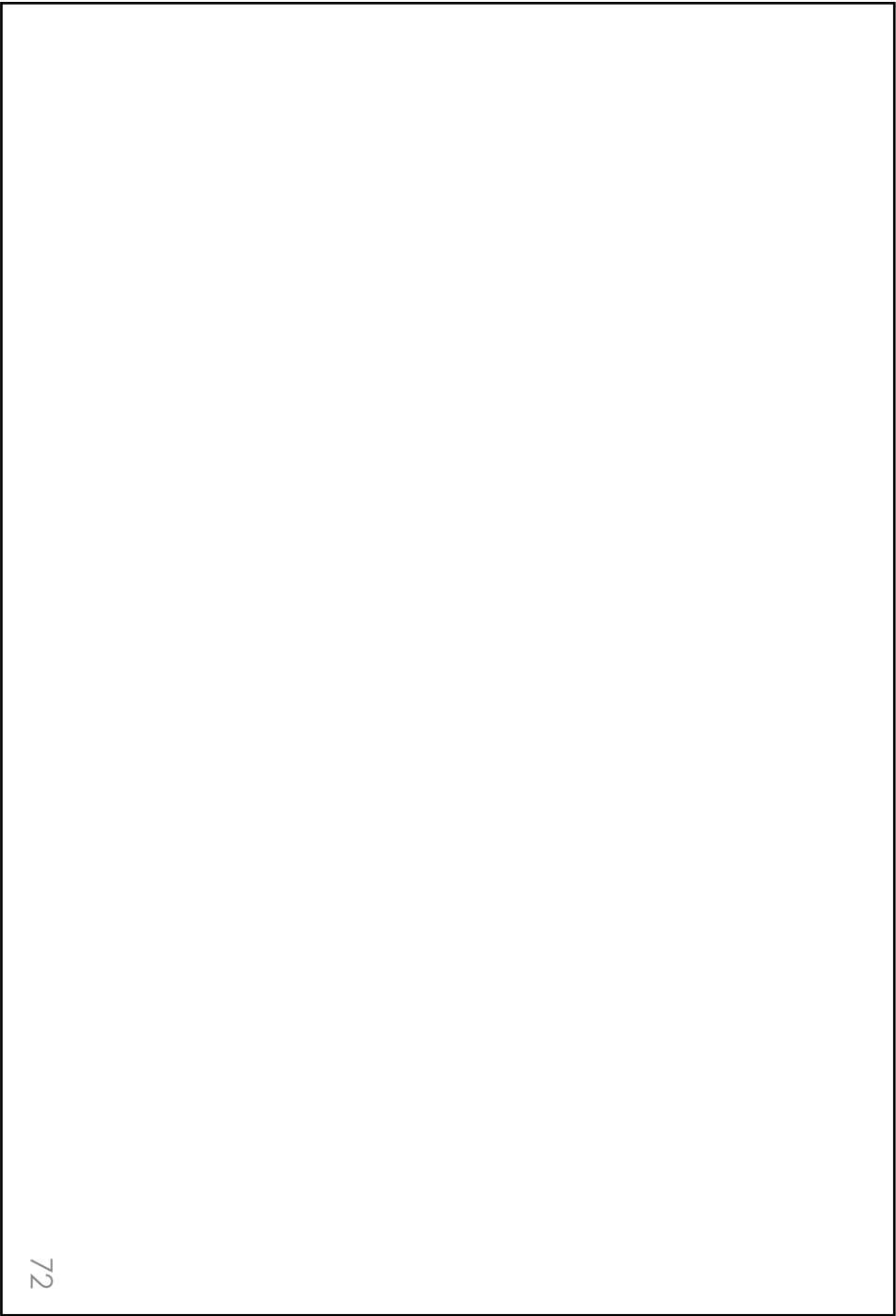
Avoid using too much information: mind maps are designed to summarise key information and connect areas of a topic/subject. If you overcrowd the page, you lose the point of the mind map and will find it harder to visualise the information when trying to recall it

Use this table to help you keep track of the mind-maps you have completed and checked this half term. There are some mind-map templates for you to use overleaf.

Week 1	Which Subject/Topic?	Week 2	Which Subject/Topic?
Day 1		Day 1	
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Brain-Dumps



1
Identify knowledge

Identify the knowledge/topic area you want to cover.



2
Write it down

Take a blank piece of paper/write board and write down everything you can remember about that topic. (With no prompts)

Give yourself a timed limit (e.g. 10 minutes)



3
Organise information

Once complete and you cannot remember any more use different colours to highlight/underline words in groups.

This categories/links information.



4
Check understanding

Compare your brain dump to your K/O or book and check understanding.

Add any key information you have missed (key words) in a different colour.



5
Store and compare

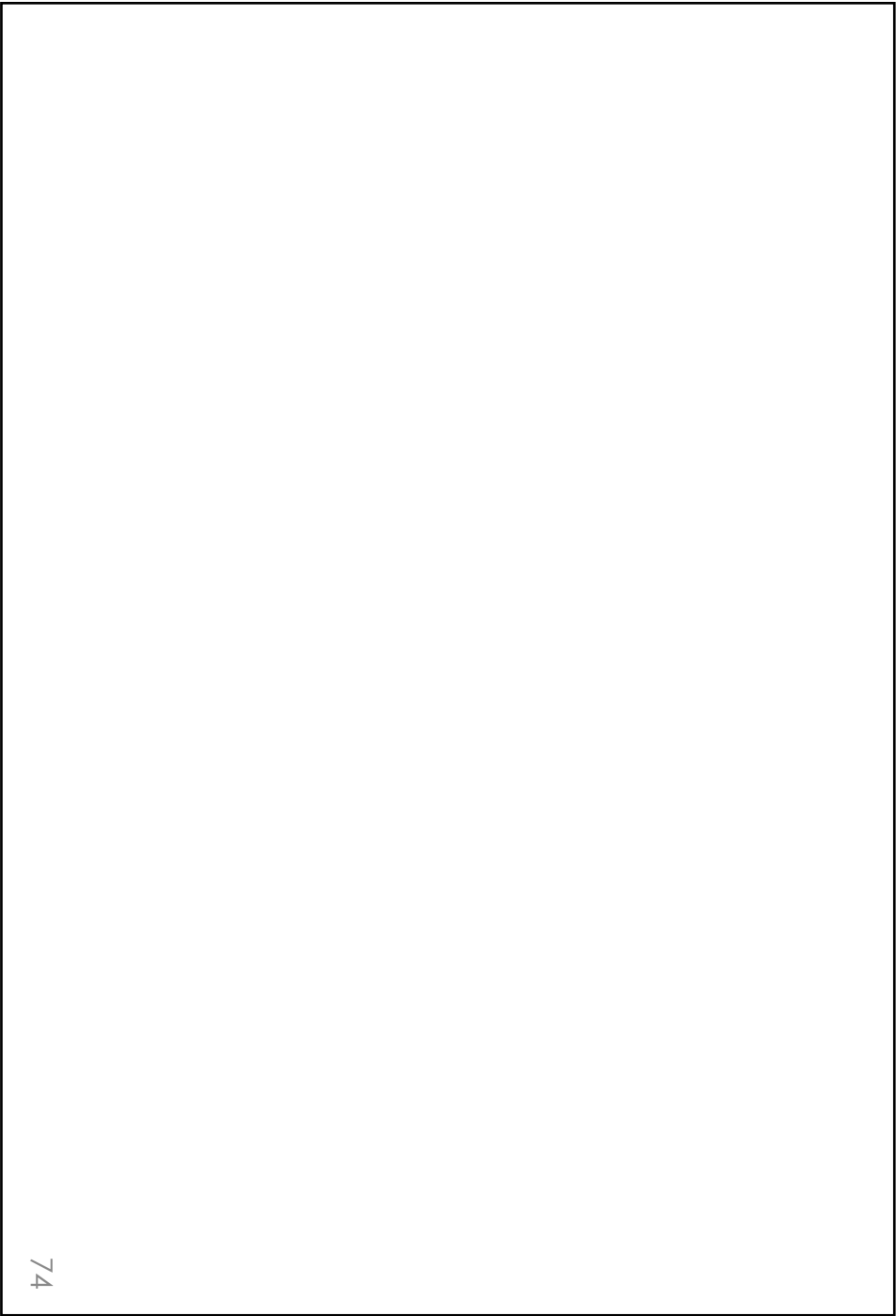
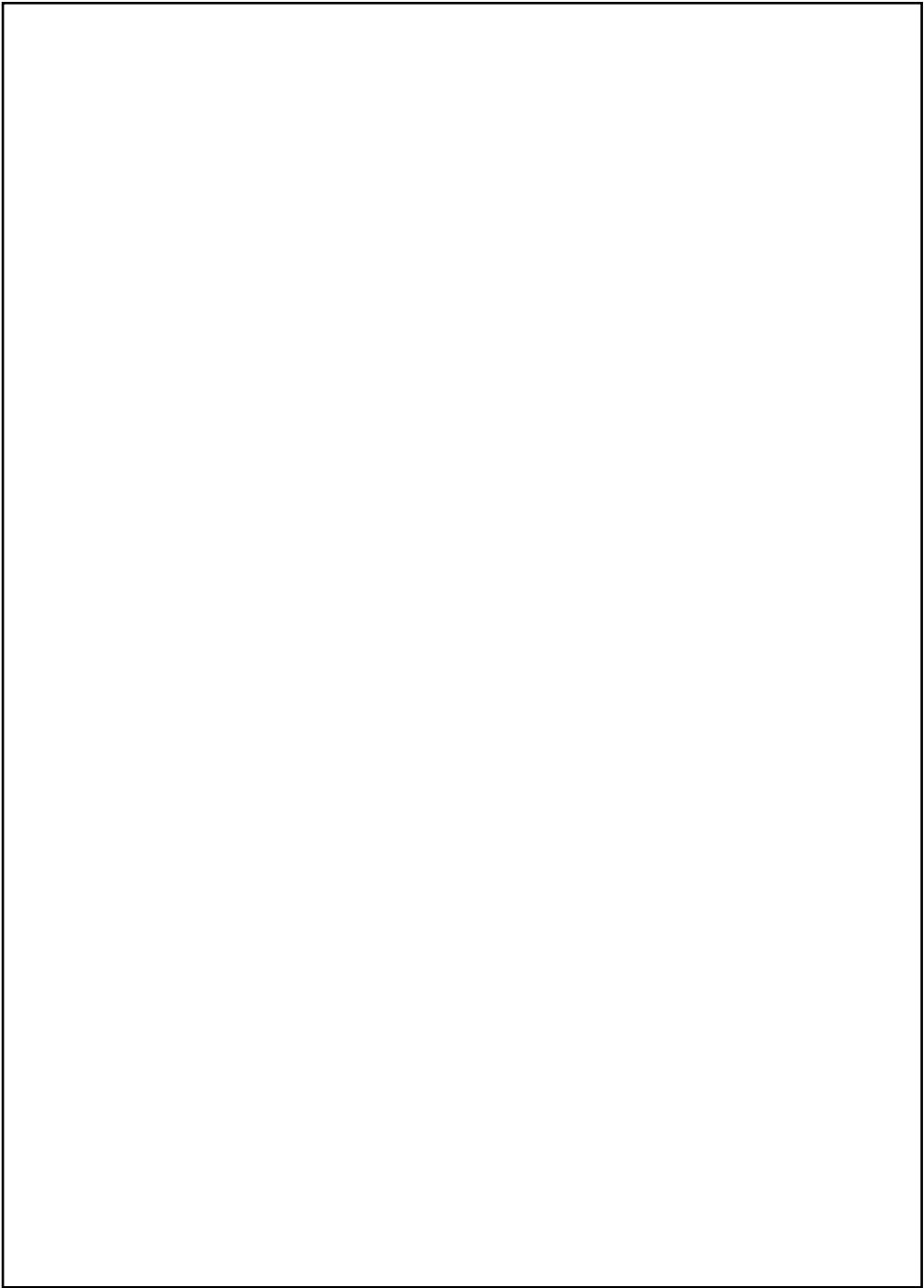
Keep your brain dump safe and revisit it.

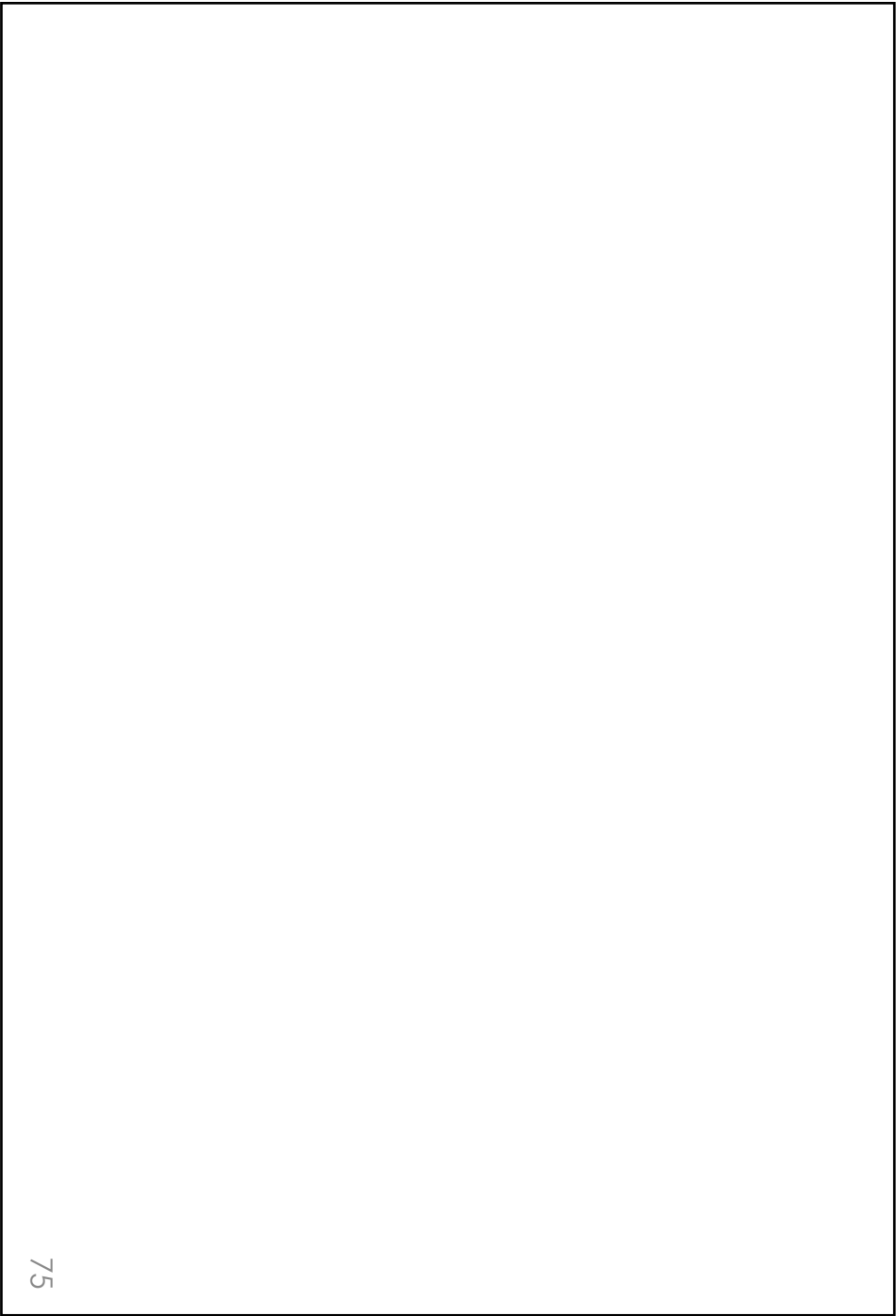
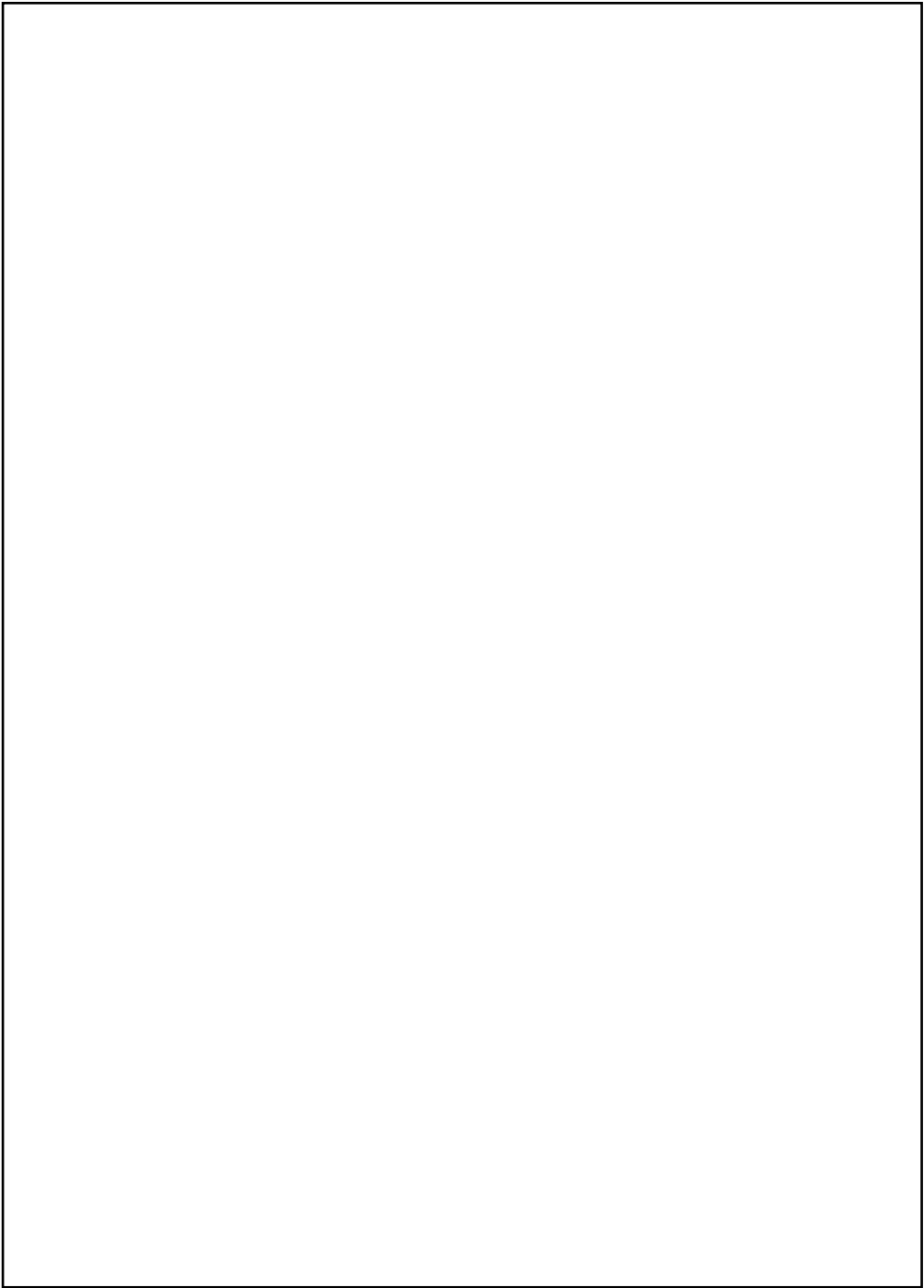
Next time you attempt the same topic try and complete the same amount of information in a shorter period of time or add more information.

Brain dumps are a way of getting information out of your brain.

Use this table to help you keep track of the brain-dumps you have completed and checked this half term. There are some brain-dump templates for you to use overleaf.

Week 1	Which Subject/Topic?	Week 2	Which Subject/Topic?
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Revise Like a Beckfooter Rewards

Great independent learning and revision are vitally important for your academic success. We have high expectations for everyone because we whole-heartedly believe that you deserve to have the best chances in life.

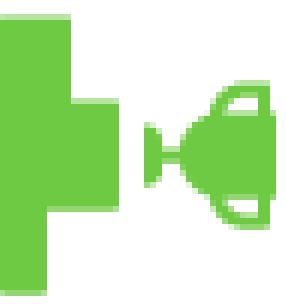
Our **minimum** expectations of KS3 students for their independent learning are as follows:

- **5 QILMISI tasks** per week using the specified strategy (on Class Charts)
- You choose the subjects – we set the tasks
- Bring your ILB to school every day

If you do not meet our minimum expectations, this will be logged on Class Charts in the same way as a missed homework.

We also recognise that often, students will want to do even more than this, and we want to support and celebrate that achievement with you. The more independent learning/revision you do, the more Class Charts points you will receive

The following rewards are available for those students who commit to their independent learning/revision and go above and beyond expectations:



1 – 2

additional tasks

3 – 4

additional tasks

5

additional tasks

10 points

20 points

50 points