

Beckfoot School

Knowledgeable And Expert Learners

Year

2023/24

Jan - Feb

enjoy|earn|succeed

Name:

Tutor group:

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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

Homework Instructions

- 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.

Access code*
Your access code

Please enter the access code supplied by your teacher.

☒ Remember me

2. Click on the Log in button.

LOG IN

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

Date of birth

Please enter your date of birth below.

Date of Birth
12/06/2009

OK CANCEL

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.

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

Homework

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

Selecting this tab will display a list of the homework tasks which you have been given.

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

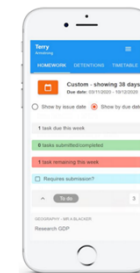
To display tasks in the order they were set, click on the Issue Date button.

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.



To do

Research GDP
GEOGRAPHY - 8FGG - MRS BLACKER

Type: Blended Learning
Issue date: Wednesday 09/11/2020
Due date: Wednesday 11/11/2020
Estimated completion time: 1 hours

Please write a short paragraph on what GDP is and how it is used.

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.

To do

Completed

Submitted late

Not submitted

Submitted

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 the subject you want to work on

3. Select your year group

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

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 Beekooter

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

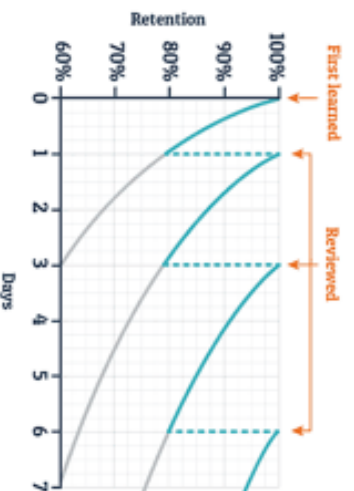
What we expect from you:

- 5 revision tasks per week using the specified revise like a Beekooter 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 Beekooter' 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?

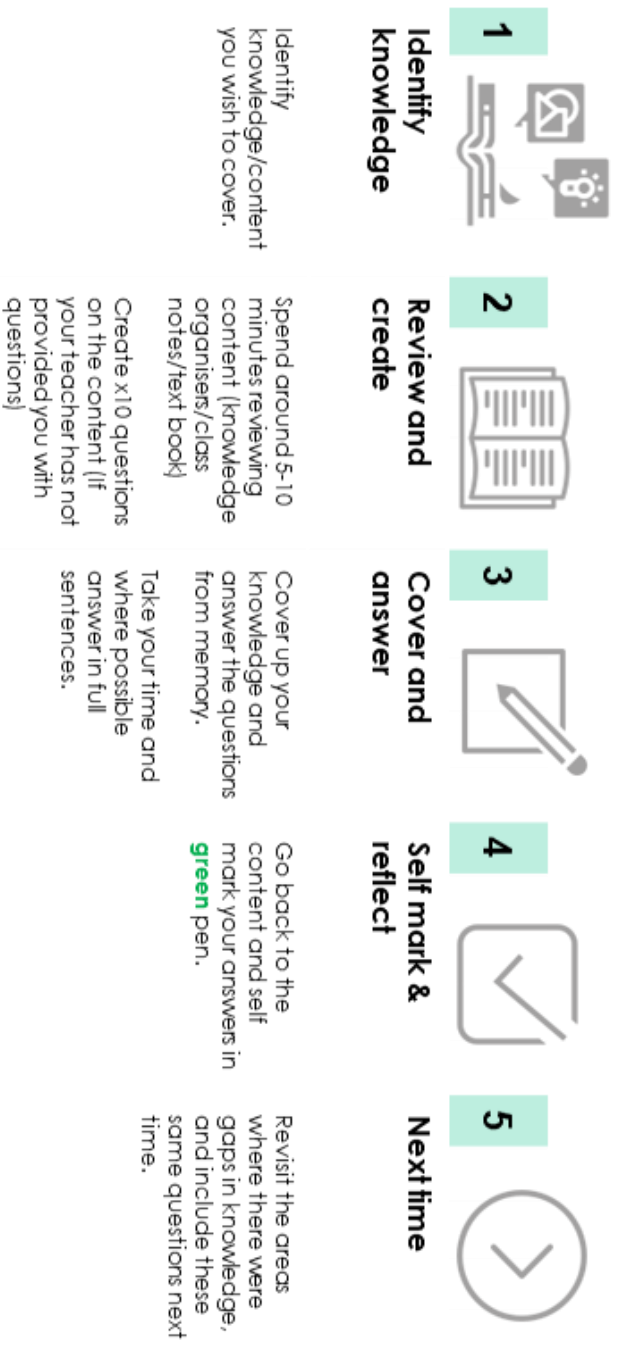
How did my motivation level affect my performance in the task?

What emotions did I experience during the task?

Why?

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

Self-quizzing



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

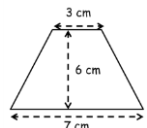
Use this table to help you keep track of the knowledge organisers you have self-quizzed on and checked this half term. Blank versions follow every organiser.

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	

Algebra: Formula

1 Substitute numbers into a formula

Eg. Substitute numbers into the formula for the area of a trapezium:



$$\frac{(a+b)h}{2} = \frac{(3+7) \times 6}{2} = 30$$

2 Rearranging formula

$$\begin{aligned} b &= 5a + 21 \\ b - 21 &= 5a \\ \frac{b-21}{5} &= a \end{aligned}$$

Key Vocabulary

1 Expression

Numbers, symbols and operators (such as + and ×) grouped together with no equals sign

2 Equation

$4x+7=5$ terms that's are equal.

3 Formula

Has an = and 2 or more terms. It can help work out area, volume, speed etc.

Number: Indices

1 Squared numbers

$$\begin{aligned} 1^2 &= 1 \times 1 = 1 \\ 2^2 &= 2 \times 2 = 4 \\ 3^2 &= 3 \times 3 = 9 \end{aligned}$$

2 Cubed numbers

$$\begin{aligned} 1^3 &= 1 \times 1 \times 1 = 1 \\ 2^3 &= 2 \times 2 \times 2 = 8 \\ 3^3 &= 3 \times 3 \times 3 = 27 \end{aligned}$$

2 Index laws

$$\begin{aligned} a^m \times a^n &= a^{m+n} \\ a^m \div a^n &= a^{m-n} \\ (a^m)^n &= a^{mn} \end{aligned}$$

3 Standard form

Ordinary Number	Standard Form
29	2.9×10^1
350	3.50×10^2
0.3	3×10^{-1}
0.09	9×10^{-2}

Geometry: Area and volume

1 Covert squared units

$$\begin{aligned} 3cm^2 &\text{ to } m^2 \\ Cm \text{ to } m &= \div 100 \\ \text{Square this conversion } 100^2 \\ 3 \div 100^2 &= 0.0003m^2 \end{aligned}$$

2 Convert cubed units

$$\begin{aligned} 3m^3 &\text{ to } cm^3 \\ M \text{ to } cm &= \times 100 \\ \text{Square this conversion } 100^2 \\ 3 \times 100^2 &= 30'000cm^2 \end{aligned}$$

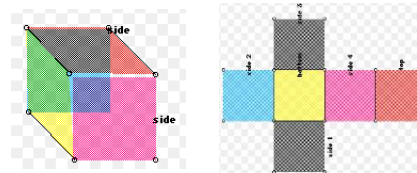
3 Vol of cube/cuboid

Volume= length x width x height

Vol of prisms

Vol= Cross section area x length

4 Surface area of prisms (work out the area of each side)



Number: Decimals

1 Round to decimal places (dp)

$$\begin{aligned} 3.248 &\text{ rounded to 1 d.p.} \\ 3.248 &\rightarrow 3.2 \\ \text{1st dp} & \quad \text{Look at the next digit. 4 stays down - stay at 3.2.} \end{aligned}$$

2 Round to significant figures (sf)

$$\begin{aligned} 3268 &\text{ rounded to 1 sig. fig.} \\ 3268 &\rightarrow 3000 \\ \text{1 sf} & \quad \text{Look at the next digit. 2 is less than 5 - stay at 3000.} \end{aligned}$$

1 Add and subtract fractions

Make sure the denominators are the same before adding / subtracting the numerators

2 Multiply and divide fractions

Multiplying: multiply numerators together then multiply the denominators together
Dividing: multiply by the reciprocal

Algebra: Formula

1	Substitute numbers into a formula	<p>Eg. Substitute numbers into the formula for the area of a trapezium:</p> $\frac{(a + b)h}{2} = \frac{(3 + 7) \times 6}{2} = 30$
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2	Rearranging formula	Make a the subject of the formula
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Key Vocabulary

1	Expression	
2	Equation	
3	Formula	

Number: Indices

1	Squared numbers	
2	Cubed numbers	
2	Index laws	
3	Standard form	

1	Add and subtract fractions	
2	Multiply and divide fractions	

Geometry: Area and volume

1	Covert squared units	$3 \div 100^2 = 0.0003m^2$
2	Convert cubed units	$\times 100^2 = 30'000cm^2$
3	Vol of cube/cuboid Vol of prisms	
4	Surface area of prisms (work out the area of each side)	

Number: Decimals

1	Round to decimal places (dp)	
2	Round to significant figures (sf)	

Algebra Simultaneous Equations, Quadratics Equations & Formulae

1 Solve simultaneous equations

Via elimination

Use the elimination method to solve the given simultaneous equations

$$\begin{array}{rcl} 5x + y & = & 20 \quad (\times 5) \\ 4x + 5y & = & 37 \quad (\times 4) \\ \hline 25x + 5y & = & 100 \\ 4x + 5y & = & 37 \\ \hline 21x & = & 63 \\ x & = & 3 \quad (\div 21) \end{array}$$

Substitute $x = 3$ into $5x + y = 20$

$$5(3) + y = 20$$

$$15 + y = 20$$

$$y = 5 \quad (-15)$$

$\therefore x = 3, y = 5$

4 Factorise & solve

2 numbers that X to give 12 and + to give 7

$$x^2 + 7x + 12$$

$$(x + 3)(x + 4)$$

2 Solve simultaneous equations

Via substitution

1) $y = x^2 - 6$
2) $y = 6 - 2x$

A) Substitute y and solve to find x :

$$3x + 2(x + 3) = 21$$

$$3x + 2x + 6 = 21$$

$$5x + 6 = 21$$

$$5x = 15$$

$$x = 3$$

B) Input x to find y :

$$y = (3) + 3$$

$$y = 6$$

$x^2 - x - 6 = 2x$
 $x^2 - x - 6 = 6$
 $x^2 - x - 12 = 0$
 $(x - 3)(x + 4) = 0$
 $x - 3 = 0$ or $x + 4 = 0$
 $x = 3$ or $x = -4$
Substitute both values of x into equation (1) or (2) and find both possible values of y .
 $y = 0$ or $y = 14$
 $(3, 0)$ $(-4, 14)$

5 Factorise & solve a difference of 2 squares

$$a^2 - b^2 = (a + b)(a - b)$$

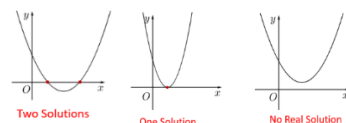
$$x^2 - 9 = (x + 3)(x - 3)$$

$$x = -3 \quad x = 3$$

3 Solve quadratics via graphing

The x-intercepts of a graph are the solutions of the equation.

A quadratic equation can have one of three types of solutions:



6 Factorise & solve complex quadratics

$3 \times 10 = 30$ Factors of 30 that + or - to make 11 are: 5 + 6 = 11

$$3x^2 + 6x + 5x + 10$$

$$3x(x + 2) + 5(x + 2)$$

$$(3x + 5)(x + 2)$$

so $x = -5/3$ or $x = -2$

7 Solve via quadratic formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Eg $2x^2 + 11x + 6 = 0 \Rightarrow a = 2 \quad b = 11 \quad c = 6$

$$x = \frac{-11 \pm \sqrt{11^2 - 4 \times 2 \times 6}}{2 \times 2} \quad x = \frac{-11 \pm \sqrt{73}}{4}$$

$$x = -0.614 \text{ or } -4.886 \text{ (3dp)}$$

8 Complete the square
Turning point (9, -1)

$$x^2 - 18x + 80 = 0$$

$$(x - 9)^2 - (9)^2 + 80 = 0$$

$$(x - 9)^2 - 81 + 80 = 0$$

$$(x - 9)^2 - 1 = 0$$

$$(x - 9)^2 = 1$$

$$x - 9 = \pm \sqrt{1}$$

$$x = -1 + 9 \quad x = 8$$

$$x = 1 + 9 \quad x = 10$$

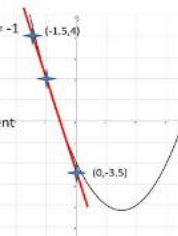
9 Gradient of tangent touching curve

Find the gradient of $y = x^2 - 3x - 2$ at the point $x = -1$

Draw a tangent at the point $x = -1$

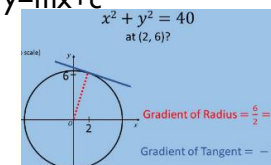
Select 2 points on your tangent line

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-3.5 - 4}{0 - -1.5} = \frac{-7.5}{1.5} = -5$$



10. Tangent to circle equation

To find equation we use $y = mx + c$



$M = -\frac{1}{3}$ & sub (2,6)

$$6 = -\frac{1}{3}(2) + c$$

$$6 + \frac{2}{3} = c \quad c = 6.67$$

$$y = \frac{1}{3}x + 6.67$$

11. Rearrange where a variable appears more than once

$$2(2p + m) = 3 - 5m$$

$$4p + 2m = 3 - 5m$$

$$4p + 2m + 5m = 3$$


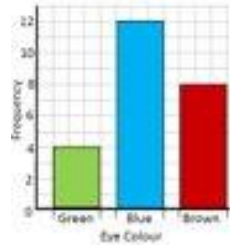
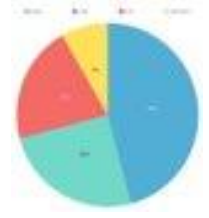
$$2m + 5m = 3 - 4p$$

$$7m = 3 - 4p$$

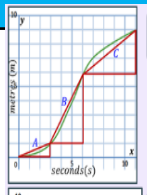
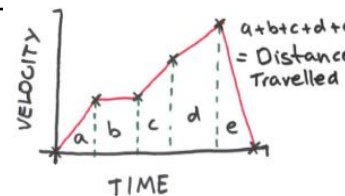
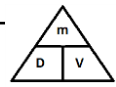
$$m = \frac{3 - 4p}{7}$$

Algebra Simultaneous Equations, Quadratics Equations & Formulae								
1	Solve simultaneous equations Via elimination		4	Factorise & solve		7	Solve via quadratic formula	10. Tangent to circle equation
						8	Complete the square Turning point (9, -1)	
2	Solve simultaneous equations Via substitution		5	Factorise & solve a difference of 2 squares				11. Rearrange where a variable appears more than once
3	Solve quadratics via graphing The x-intercepts of a graph are the solutions of the equation. A quadratic equation can have one of three types of solutions:		6	Factorise & solve complex quadratics $3x^2 + 11x + 10$		9	Gradient of tangent touching curve	

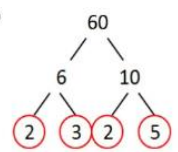
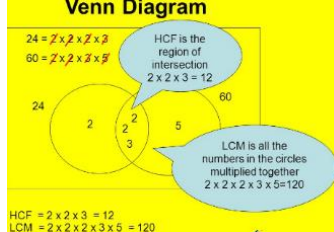
Statistics – Data Representation

1	Tally Chart <ul style="list-style-type: none"> Information you are collecting listed. Column for tallies. Column for frequency. 	
2	Bar Chart <ul style="list-style-type: none"> Frequency on y-axis. Information you are collecting on the x-axis. Bars same width. Equal gaps between bars. Title explaining what the chart shows. 	<p>Eye colours in a Year</p> 
3	Pie Chart <ul style="list-style-type: none"> Divided into sectors which shows the relative size of the data. Needs a key or labels to clearly show what each sector represents. Sectors calculated using parts of 360°. 	

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 = $\frac{1}{3}$ → 0.3m/s</p> <p>Gradient B = $\frac{5}{3}$ → 1.7 m/s</p> <p>Gradient C = $\frac{3}{5}$ → 0.6m/s</p>
2	Velocity time graphs	 <p>VELOCITY</p> <p>TIME</p> <p>$a+b+c+d+e = \text{Distance Travelled}$</p>
3	Density	$\text{density} = \frac{\text{mass}}{\text{volume}}$ 

Number - Primes

1. Prime factorisation	2. Using Venn to find
 <p>Either way, the result is:</p> <p>$2 \times 2 \times 3 \times 5$ or $2^2 \times 3 \times 5$</p>	<p>Venn Diagram</p>  <p>$24 = 2^3 \times 3$ $60 = 2^2 \times 3 \times 5$</p> <p>HCF is the region of intersection $2 \times 2 \times 3 = 12$</p> <p>LCM is all the numbers in the circles multiplied together $2 \times 2 \times 2 \times 3 \times 5 = 120$</p> <p>HCF = $2 \times 2 \times 3 = 12$ LCM = $2 \times 2 \times 2 \times 3 \times 5 = 120$</p>

Key Vocabulary

1	Velocity	Is speed with direction.
2	Tangent	A straight line that touches a circle.
3	Roots or solutions	When we draw a quadratic equation, where the curve cuts through the x-axis are called the roots or solutions.
4	Gradient	Rate of change, so it could be the rate of water flow over time, or distance travelled over time.
5	Bisect	To mathematically accurately cut something in half e.g., an angle,
6	Prime factorisation	To break a number down into the primes we can multiply to make the original number.
7	Coefficient	This is the number in front for example the co-efficient of this term $3x^2$ is 3.

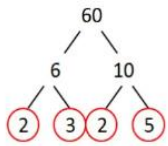
Statistics – Data Representation

1	Tally Chart <ul style="list-style-type: none"> Information you are collecting listed. Column for tallies. Column for frequency. 	
2	Bar Chart <ul style="list-style-type: none"> Frequency on y-axis. Information you are collecting on the x-axis. Bars same width. Equal gaps between bars. Title explaining what the chart shows. 	Eye colours in a Year 8 Class
3	Pie Chart <ul style="list-style-type: none"> Divided into sectors which shows the relative size of the data. Needs a key or labels to clearly show what each sector represents. Sectors calculated using parts of 360°. 	

Ratio Proportion Rates of Change Real Life Graphs

1	Calculate fastest average speed.	
2	Velocity time graphs	
3	Density	

Number - Primes

1. Prime factorisation  <p>Either way, the result is: $2 \times 2 \times 3 \times 5$ or $2^2 \times 3 \times 5$</p>	2. Using Venn to find HCF/LCM
--	-------------------------------

Key Vocabulary

1	Velocity	
2	Tangent	
3	Roots or solutions	
4	Gradient	
5	Bisect	
6	Prime factorisation	
7	Coefficient	

Question Summary

Q.	Skill(s) assessed	Marks, timings and question stems
1	Retrieval and inference	4 marks (10 minutes inc. reading source) "List four things..."
2	Language	8 marks (15 minutes) "How does the writer use language here to..." (2-3 PEA)
3	Structure	8 marks (15 minutes) "How has the writer structured the text to interest you as a reader?" (3 PEA)
4	Evaluation	20 marks (20 minutes) "Statement on an aspect of the text." To what extent do you agree? (3 PEA)
5	Creative Writing	40 marks <i>24 marks for content and organisation</i> <i>16 marks for technical accuracy</i> (45 minutes) Choice between writing based on a visual prompt or a written one.

Useful Approaches to Creative Writing (Q5)

1	Use an unreliable narrator	Give your reader reason to doubt the accuracy of the story told e.g. write as someone old or young
2	Choose an unexpected perspective	Obvious isn't always best. Find interesting perspectives!
3	Give your characters inner conflict	A difficult decision or social situation is just as interesting as a fight!
4	Use a cyclical structure	Can really help contain a story and give a powerful ending
5	Make your characters vulnerable	Weaknesses make your characters interesting!
6	Avoid using dialogue	Summarise conversations rather than write every word
7	Start at the end (and then flash back)	Confuse your reader to start with, then clear up the confusion bit by bit
8	Use a short timeline	Covering a single hour is usually better than a lifetime
9	Show, don't tell	"Tears streamed down her cheeks" is better than "she was crying"

Key Language Terminology (Q2 and Q4)

1	Atmosphere	The feeling associated with a piece of writing e.g. dark or oppressive	6	Connotation	What a word or phrase implies or suggests
2	Figurative language	Any language not meant literally e.g. metaphor and simile	7	Hyperbole	Strong exaggeration, not meant to be taken literally
3	Imagery	Visually descriptive language	8	Juxtaposition	Placing two things together to highlight their contrast
4	Lexis	Word choices – words chosen with specific effects in mind	9	Narrative Perspective	The viewpoint from which a text is written
5	Semantic field	Words and phrases with related meanings	10	Short sentences	Used for dramatic impact, often in moments or action

Key Structural Terminology (Q3 and Q4)

1	Ambiguity	Intentional withholding of information to keep a reader guessing	6	Analepsis	Flashback – moving to an earlier point in a narrative's chronology
2	Climax	The peak of tension within a story – it's most thrilling point	7	Cyclical	A structure that returns to where it started
3	Focus shift	Changes of location, character or subject as a story progresses	8	Foreshadowing	Hints of later events used to build tension and guide readers
4	Fragment	An incomplete sentence, usually missing a key part	9	Listing	Numerous similar items are ideas one after the other
5	Motif	A repeated image, words, phrase or idea in a text	10	Repetition	A word or phrase used multiple times throughout a text

Question Summary

Q.	Skill(s) assessed	Marks, timings and question stems
1	Retrieval and inference	
2	Language	
3	Structure	
4	Evaluation	
5	Creative Writing	

Useful Approaches to Creative Writing (Q5)

1	Use an unreliable narrator	
2	Choose an unexpected perspective	
3	Give your characters inner conflict	
4	Use a cyclical structure	
5	Make your characters vulnerable	
6	Avoid using dialogue	
7	Start at the end (and then flash back)	
8	Use a short timeline	
9	Show, don't tell	

Key Language Terminology (Q2 and Q4)

1	Atmosphere		6	Connotation	
2	Figurative language		7	Hyperbole	
3	Imagery		8	Juxtaposition	
4	Lexis		9	Narrative Perspective	
5	Semantic field		10	Short sentences	

Key Structural Terminology (Q3 and Q4)

1	Ambiguity		6	Analepsis	
2	Climax		7	Cyclical	
3	Focus shift		8	Foreshadowing	
4	Fragment		9	Listing	
5	Motif		10	Repetition	

Plot Summary

1	Stave 1	Scrooge is introduced; he refuses to warm the office up for Bob Cratchit; he refuses to make a charity donation; refuses to eat Christmas dinner with Fred; is irritated by Christmas as it is interrupting his business; sees Marley's ghost who warns him he will be visited by three spirits to make him change his miserly ways.
2	Stave 2	The Ghost of Christmas Past takes Scrooge back in time to show him: his village; him alone at school; his sister collecting him from school; a party at Fezziwig's; Belle breaking off their engagement and Belle with her husband. Unable to take any more, Scrooge begs the spirit to take him back home. When he is back home, he falls asleep almost instantly.
3	Stave 3	The Ghost of Christmas Present shows Scrooge how the Cratchit family celebrate Christmas; Scrooge becomes worried about Tiny Tim not surviving in the future. The spirit then takes Scrooge to see how others celebrate Christmas including Fred's Christmas party. The spirit begins to age and under its robe Scrooge sees two children: Ignorance and Want.
4	Stave 4	The Ghost of Christmas Yet to Come arrives and Scrooge is terrified of him. It shows Scrooge a group of businessmen discussing someone's death. He is taken to a pawn shop where the possessions of the dead man are being sold. He is next taken to the Cratchit household where the family are grieving for Tiny Tim. Scrooge is then taken to a graveyard and sees his name on a gravestone. He begs the spirit and says he will change his ways.
5	Stave 5	Scrooge wakes up in his own bed and is now transformed! He sends a prize Turkey to the Cratchit family and even promises to give a huge charity donation to the poor. Scrooge then goes to Fred's to attend the party and is welcomed in. He also gives Bob Cratchit a raise and becomes a second father to Tiny Tim who does not die.

Characters

1	Scrooge	The protagonist, a mean old loner who hates Christmas.	6	Bob Cratchit	Scrooge's hardworking and unpaid clerk.
2	Marley	Scrooge's deceased business partner who appears as a ghost to warn Scrooge to change his ways.	7	Tiny Tim	Bob Cratchit's ill and vulnerable son.
3	Ghost of Christmas Past	A shape changing spirit that represents memory and has light/a flame at the top of its head.	8	Fred	Scrooge's patient, jovial nephew. The son of his beloved sister, Fan.
4	Ghost of Christmas Present	A jolly spirit (resembles Father Christmas) that represents generosity and Christmas spirit.	9	Fezziwig	Scrooge's generous former employer.
5	Ghost of Christmas Yet to Come	A silent, sinister spirit in a black, hooded cloak who represents death.	10	Belle	Scrooge's former fiancée who breaks off their engagement because he valued money more than their relationship.

Themes

1	Greed and selfishness	Characters such as Scrooge represent the middle classes who sought to hoard rather than share their wealth.
2	Poverty	Scrooge despises the poor and thinks they are lazy at first. At the end, he realizes he can share his wealth with the poor.
3	Transformation	The spirits show Scrooge scenes that prompt his transformation. At the end of the novella, Scrooge's transformation into a kinder human being is complete.
4	Christmas	Scrooge learns the true meaning of Christmas is to spend time with your family and loved ones.
5	Social responsibility	Ignorance and Want remind Scrooge that turning a blind eye to the plight of the poor creates desperate

Context

1	Charles Dickens	Born in 1812 to a middle class family. His dad was imprisoned for debt leading to poverty for the family. Dickens began working difficult jobs at a young age.
2	Poverty	In 1834, the Poor Amendment reduced the amount of help available to the poor, forcing them to seek help from workhouses. Conditions were incredibly harsh in the Victorian era.
3	Christmas	Christmas was fairly a low key celebration. During Queen Victoria's reign, workers were given two days holiday for Christmas. Turkey was only eaten by the rich, goose was a cheaper option.

Key Vocabulary

1	Simile	Comparing two things using 'like' or 'as', e.g. "hard and sharp as a flint"
2	Motif	Repeated image or symbol, e.g. light being used several times in the novella
4	Allegory	Characters/events represent ideas about religion, morals or politics.
5	Novella	A short novel or long short story.
6	Resolution	The Point where conflict is solved, e.g. Scrooge's redemption.
7	Redemption	Being saved from sin, error or evil, e.g. Scrooge realising he needs to change his miserly ways and then does in stave 5.

Plot Summary

1	Stave 1	
2	Stave 2	
3	Stave 3	
4	Stave 4	
5	Stave 5	

Characters

1	Scrooge		6	Bob Cratchit	
2	Marley		7	Tiny Tim	
3	Ghost of Christmas Past		8	Fred	
4	Ghost of Christmas Present		9	Fezziwig	
5	Ghost of Christmas Yet to Come		10	Belle	

Themes

1	Greed and selfishness	
2	Poverty	
3	Transformation	
4	Christmas	
5	Social responsibility	

Key Vocabulary

1	Simile	
2	Motif	
4	Allegory	
5	Novella	
6	Resolution	
7	Redemption	

Context

1	Charles Dickens	
2	Poverty	
3	Christmas	

Plot Summary

1	Letters 1-4 Walton's POV	The novel begins with a series of letters from Walton to his sister, Margaret. He is captain of the ship in a voyage to the north Pole. Walton and his men rescue Victor and help him recuperate on the ship. He eventually tells Walton his story.
2	Ch. 1-2 Victor's POV	Victor begins his narration and tells of his childhood growing up in Geneva with his doting parents. He also shares that Elizabeth was adopted. As a teenager, Victor was fascinated by the mysteries of Science.
3	Ch. 3-5 Victor's POV	Victor's mother dies from Scarlet fever after catching it whilst nursing Elizabeth. Victor leaves to attend university in Ingolstadt and becomes obsessed with anatomy. He decides to animate a creature and is horrified when it is brought to life. He abandons the creature and falls ill.
4	Ch. 6-8 Victor's POV	Victor is nursed back to health by his friend, Henry Clerval. He receives a letter from his father informing him that William has been murdered. Returning to Geneva, Victor sees the monster and knows who is to blame, however Justine is executed for William's murder.
5	Ch. 9-10 Victor's POV	Victor contemplates suicide but a trip to Belrive, planned by his father, cheers him up slightly. When he feels negative again, he decides to climb Montanvert to clear his head and sees the monster who shares his story.
6	Ch. 11-12 Creature's POV	The monster describes the confusion in its first moments of life. He then describes people fleeing whenever he tried to approach them, so he decided to stay away from them. He developed skills and began observing the De Lacey family to educate himself.
7	Ch. 13-14 Creature's POV	Winter turns into Spring and the creature has now learnt language. He notices that the family seem unhappy, until Safie arrives. He learns that the people are called Felix, Agatha and De Lacey and they used to be affluent.
8	Ch. 15-17 Creature's POV	The creature finds books and learns to read and also learns how he was created. He hopes to befriend the cottagers, starting with the old, blind De Lacey, however Felix drives him away. When the family have left, the creature burns down their cottage and leaves for Geneva. He confesses that he killed William and framed Justine. He then implores Victor to make him a mate and Victor agrees.
9	Ch. 18-20 Victor's POV	Victor visits England with Clerval, but he leaves Clerval in Scotland so that he can work on the female creature alone in the Orkney Islands. Mid-way, he destroys it in front of the monster. The monster promises revenge on Victor's wedding night. Victor then gets rid of the remains in the sea. When he lands in a town, he is suspected of a murder.
10	Ch. 21-23 Victor's POV	Victor is taken to the body, which is Clerval's. He collapses and falls ill. When he awakens, he is found innocent. Elizabeth and Victor marry, however, he remembers the creature's threat and plans to battle him. On the wedding night, Elizabeth is killed by the creature and Alphonse dies from shock. Victor vows revenge on the creature.
11	Ch. 24 Victor's POV - Walton in Continuation Walton's POV	Victor relentlessly tracks down the creature through ice and snow. He is found by Walton, to whom he warns not to make the same mistakes as him and Walton decides to call the voyage off. Victor asks Walton to continue his mission and then dies. Walton then sees the creature weeping over Victor's body. He is tormented and states he has no purpose left, now that his creator is dead. He leaves into the darkness.

Characters

1	Robert Walton	A young, ambitious English man leading an expedition to the North Pole.	6	Justine Moritz	Frankenstein family servant, who is more like family. She was framed by the creature and executed for William's murder.
2	Victor Frankenstein	Protagonist. Driven by ambition and Science. His quest for power leads him to his own downfall.	7	De Lacey	Parisian's turned rural farmers. They are poor, but kind, loving and good.
3	Alphonse Frankenstein	Victor's father. An example of kindness and selflessness.	8	The Creature	A product of Victor's scientific experiment that went wrong. He is rejected by everyone and longs for acceptance.
4	Caroline Frankenstein	Victor's loving mother. A paradigm of motherly concern and generosity. Her death provides the catalyst for Victor to transcend death.	9	Henry Clerval	Victor's best friend. He is an idealised character. Henry takes care of Victor and is also another one of the creature's victims.
5	William	Victor's youngest brother who was murdered by the creature.	10	Elizabeth	Victor's adopted sister and bride. She is a passive and idealised

Themes

1	Ambition/obsession	Both Victor and Walton aim for major discoveries/achievements. Victor's tale is a warning to not be overly ambitious.
2	Family/Love	Family is important to Victor and the Creature. The Creature longs for family/love but is always rejected.
3	Death	Several people die in the novel and Victor's mother's death is what spurred Victor on to transgress the boundaries of life and death.
4	Revenge	Both Victor and the creature feel wronged and seek revenge even at the cost of their own safety, health and happiness.
5	Man vs God	Both Victor and Walton talk of conquering nature with science which emphasizes their risk-taking and ambitious natures.

Context

1	Mary Shelley	Born in 1797, most famous for <i>Frankenstein</i> . Shelley experienced a great deal of death in her own life: her mother, her 3 children and her husband (Percy Bysshe Shelley).
2	Science	Many advancements in science had been made, biologists were finding out a great deal about the human body and its capabilities. Science was breaking boundaries.
3	Religion	Parts of Europe were heavily religious. Therefore, occurrences that could not be explained were viewed as an act of God or from another supernatural force.

Key Vocabulary

1	Epistolary Novel	Novel written in the form of letters which allows the writer to establish the narrative POV clearly.
2	Frame Narrative	A narrative within a narrative. This allows us to see events from different perspectives.
4	Allegory	Characters/events represent ideas about religion, morals or politics.
5	Foreshadowing	When something gives the reader a hint about what will take place in the future.
6	Transgression	An act that goes against a law, rule or code of conduct; an offence.
7	Age of Enlightenment	An intellectual and philosophical movement that dominated the world of ideas in Europe during the 17 th -19 th Century.

Plot Summary

1	Letters 1-4 Walton's POV	
2	Ch. 1-2 Victor's POV	
3	Ch. 3-5 Victor's POV	
4	Ch. 6-8 Victor's POV	
5	Ch. 9-10 Victor's POV	
6	Ch. 11-12 Creature's POV	
7	Ch. 13-14 Creature's POV	
8	Ch. 15-17 Creature's POV	
9	Ch. 18-20 Victor's POV	
10	Ch. 21-23 Victor's POV	
11	Ch. 24 Victor's POV - Walton in Continuation Walton's POV	

Characters

1	Robert Walton		6	Justine Moritz	
2	Victor Frankenstein		7	De Laceys	
3	Alphonse Frankenstein		8	The Creature	
4	Caroline Frankenstein		9	Henry Clerval	
5	William		10	Elizabeth	

Themes

1	Ambition/obsession	
2	Family/Love	
3	Death	
4	Revenge	
5	Man vs God	

Key Vocabulary

1	Epistolary Novel	
2	Frame Narrative	
4	Allegory	
5	Foreshadowing	
6	Transgression	
7	Age of Enlightenment	

Context

1	Mary Shelley	
2	Science	
3	Religion	

Plot Summary

1	Prologue	Sets up main themes of the play. Provides an overview of the action.
2	Act 1	Montagues and Capulets brawl. Romeo depressed about Rosaline. Paris wants to marry Capulet's young daughter Juliet. Juliet's mother and Nurse encourage Juliet to marry Paris. Romeo attends Capulet party, sees Juliet and falls in love.
3	Act 2	Balcony Scene – R&J decide to get married. Romeo asks Friar Lawrence to conduct ceremony. Friar Lawrence hopes marriage will end feud. Nurse visits Romeo to check his commitment. Friar Lawrence marries R&J.
4	Act 3	Romeo refuses to fight Tybalt. Mercutio killed by Tybalt and Tybalt by Romeo. Romeo is banished. Juliet told she is to be married to Paris. Capulet flies into a rage after Juliet refuses.
5	Act 4	Juliet asks Friar Lawrence for help. Friar Lawrence supplies a potion and a plan. Juliet agrees to marry Paris. Wedding plans are underway but Juliet found 'dead' by the Nurse.
6	Act 5	Romeo thinks Juliet is dead. He returns to Verona with a poison. Friar Lawrence discovers Romeo did not get his letter. Romeo kills Paris at Juliet's tomb, takes poison and dies. Juliet wakes and finds Romeo, stabs herself. The feud is over.

Characters

1	Romeo Montague	Initially a typical Petrarchan lover, his love for Juliet is incredibly romantic, impulsive and passionate.	6	Lady Capulet	Juliet's mother. Cold and distant for most of the play, she expects Juliet to follow in her own footsteps.
2	Juliet Capulet	Young and innocent, not yet 14. Her love for Romeo matures her and makes her bolder in her defiance.	7	Nurse	Juliet's nursemaid, they have a close relationship. She acts as confidante and messenger for Romeo and Juliet.
3	Lord Capulet	Juliet's father. Shows concern for Juliet's welfare, but can be aggressive and tyrannical when disobeyed.	8	Tybalt	Juliet's ruthless, hot-tempered and vengeful cousin. Has a deep, violent hatred of the Montagues.
4	Mercutio	A relative of the Prince and a high-ranking man. Mixes well with both families and is Romeo's loyal best friend.	9	Benvolio	Cares about his cousin Romeo and tries to keep peace between the families.
5	Paris	A rich and highly-regarded young man, kinsman to the	10	Friar	A caring, trusted, kind man of the Church who is

Themes

1	Love	Romantic, sexual, superficial and platonic forms of love are present in the play.
2	Death	The certainty, fear, acceptance and welcoming of death is portrayed in the play.
3	Fate versus Free Will	This is the idea of an inevitable destiny that cannot be escaped.
4	Honour and loyalty	The importance of family & friendship.
5	Masculinity	The play explores traditional views of masculinity

Context

1	Queen Elizabeth	Reigned from 1558-1603. Her reign saw England prosper and become a major player in Europe. She chose not to marry, defying the expectations of a patriarchal society.
2	Astrology	In both 14th-century Italy and Elizabethan England stars linked to fate and fortune, were believed to predict and influence the course of human events.
3	The role of women	Society was ' <u>patriarchal</u> ' (led by men). Women were said to be lower than men in The Great Chain of Being. Women were expected to marry, to bear children and be subservient to men.

Key Vocabulary

1	Foreshadowing	R&J's deaths are hinted at throughout the play, creating suspense for the audience.
2	Hamartia	Both protagonists can be considered to be tragic heroes: high status, sympathetic characters whose fatal flaws (their impulsiveness) contribute to their inevitable deaths
4	Sonnet	A poem of 14 lines with a strict rhyme scheme, usually associated with love and romance. R&J speak in a shared sonnet when they first meet.
5	Dramatic Irony	Some things are revealed to the audience before the characters, increasing tension.
6	Juxtaposition	Opposites that are placed next to each other. Each idea is being emphasised.
7	Motif	Image, sound, action or other figure that has symbolic significance. Some motifs in R&J include light + dark and poison.

Plot Summary

1	Prologue	
2	Act 1	
3	Act 2	
4	Act 3	
5	Act 4	
6	Act 5	

Characters

1	Romeo Montague		6	Lady Capulet	
2	Juliet Capulet		7	Nurse	
3	Lord Capulet		8	Tybalt	
4	Mercutio		9	Benvolio	
5	Paris		10	Friar	

Themes

1	Love	
2	Death	
3	Fate versus Free Will	
4	Honour and loyalty	
5	Masculinity	

Context

1	Queen Elizabeth	
2	Astrology	
3	The role of women	

Key Vocabulary

1	Foreshadowing	
2	Hamartia	
4	Sonnet	
5	Dramatic Irony	
6	Juxtaposition	
7	Motif	

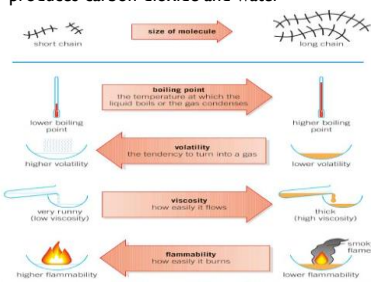
Crude Oil, Hydrocarbons & Alkanes

1	What is crude oil?	A mixture of mainly hydrocarbons that formed from the remains of ancient biomass, mostly plankton, that was buried in mud.
2	Crude oil is mostly made up of alkanes	General formula: C_nH_{2n+2} Alkanes are saturated (only single C-C bonds) hydrocarbons.

Key Vocabulary

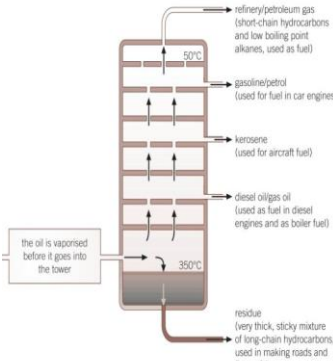
1	Hydrocarbon	Molecules made up of carbon and hydrogen atoms only.
2	Homologous Series	A sequence of compounds with the same functional group and similar chemical properties.

Properties of Hydrocarbons & Combustion

1	Complete combustion	The combustion of hydrocarbon fuels releases energy. During combustion, the carbon and hydrogen in the fuels are oxidised. The complete combustion of a hydrocarbon produces carbon dioxide and water
2	Properties of hydrocarbons	 <p>The diagram illustrates how properties of hydrocarbons change with molecular size. As the size of the molecule increases (from short chain to long chain), the boiling point increases, volatility decreases, viscosity increases, and flammability decreases. Short chain molecules have lower boiling points, higher volatility (they are 'runny'), lower viscosity, and higher flammability. Long chain molecules have higher boiling points, lower volatility, higher viscosity (they are 'thick'), and lower flammability.</p>

Fractional Distillation

1	Process	The Process 1) Heated crude oil enters a tall fractionating column, which is hot at the bottom and gets cooler towards the top 2) Vapours from the oil evaporate up the column 3) Vapours condense when they become cool enough liquids are led out of the column at different heights 4) The different fractions separate because they have different boiling points
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2	Diagram	 <p>The diagram shows a tall fractionating column with several trays. Crude oil is vaporized at the bottom (350°C) and rises through the column. As it rises, it cools and condenses on the trays. Different fractions are collected at different heights based on their boiling points: - Top: refinery/petroleum gas (short-chain hydrocarbons and low boiling point alkanes, used as fuel) - Gasoline/petrol (used for fuel in car engines) - Kerosene (used for aircraft fuel) - Diesel oil/gas oil (used as fuel in diesel engines and as boiler fuel) - Bottom: residue (very thick, sticky mixture of long-chain hydrocarbons, used in making roads and bit roofs)</p>
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3	Products	Useful petrochemicals produced: solvents, lubricants, polymers and detergents. Essential fuels produced from crude oil: petrol, diesel oil, kerosene, heavy fuel oil and liquified petroleum gases.
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Cracking

1	Supply & demand	Long chain molecules have less uses and are in less of a demand, but they can be broken down into smaller more useful products by cracking.
2	Products	Both cracking processes result in the formation of two products; an alkane and an alkene .
3	Method 1	The alkane is brought into contact with a powdered aluminium oxide catalyst at moderate pressure and a temperature of around 500°C.
4	Method 2	The hydrocarbon is mixed with steam and heated to a very high temperature (approximately 850°C).

Alkenes

1	Alkenes homologous series	Alkenes are produced as one of the products of cracking. This double bond means that alkenes are more reactive than alkanes. Although it is the shorter chain alkane that is the desired product of cracking, alkenes are also useful to us. Alkenes can be used as monomers in polymerisation reactions to produce some of the plastics that we use in our everyday lives.
2	General formula	C_nH_{2n}
3	Test	Unsaturated hydrocarbon breaks its double bond & forms a new compound (Di-Bromo) it goes Colourless with alkenes .

Crude Oil, Hydrocarbons & Alkanes

1 What is crude oil?

2 Crude oil is mostly made up of alkanes

Key Vocabulary

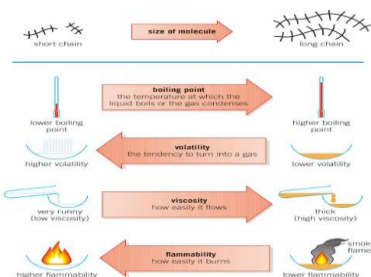
1 Hydrocarbon

2 Homologous Series

Properties of Hydrocarbons & Combustion

1 Complete combustion

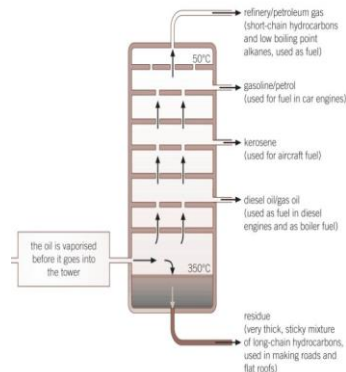
2 Properties of hydrocarbons



Fractional Distillation

1 Process

2 Diagram



3 Products

Cracking

1 Supply & demand

2 Products

3 Method 1

4 Method 2

Alkenes

1 Alkenes homologous series

2 General formula

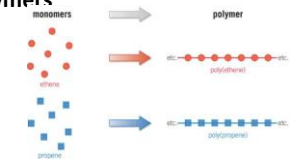

3 Test

Functional Groups

1	Alcohols	<p>A molecule that contains the functional group -OH is called an alcohol. General formula: $C_nH_{2n+1}OH$</p> <table border="1"> <thead> <tr> <th>Number of C in chain</th><th>Start of name</th><th>Full name</th></tr> </thead> <tbody> <tr> <td>1</td><td>Meth-</td><td>Methanol</td></tr> <tr> <td>2</td><td>Eth-</td><td>Ethanol</td></tr> <tr> <td>3</td><td>Prop-</td><td>Propanol</td></tr> <tr> <td>4</td><td>But-</td><td>Butanol</td></tr> </tbody> </table>	Number of C in chain	Start of name	Full name	1	Meth-	Methanol	2	Eth-	Ethanol	3	Prop-	Propanol	4	But-	Butanol
Number of C in chain	Start of name	Full name															
1	Meth-	Methanol															
2	Eth-	Ethanol															
3	Prop-	Propanol															
4	But-	Butanol															
2	Esters	<p>Alcohol + Carboxylic Acid \rightarrow Ester + Water They have the functional group -COO Naming esters : First name is the alcohol and second name is the salt name of the carboxylic acid Esters are volatile compounds are often used as; Food flavorings, perfumes, plastics , solvents and plasticisers.</p>															
3	Carboxylic acids	<p>General formula: $C_nH_{2n+1}COOH$ Carboxylic acids have the functional group -COOH. They have the ending 'anoic' Carboxylic Acids are weak acids due to the fact they only partially dissociate (ionize). Forming H^+ ions</p>															



Polymerisation

1	Polymers	<p>When small molecules are combined together they are able to create long chain molecules called Polymers</p> 
2	Addition polymerisation	<p>Small molecules, such as alkenes (Monomers) react together to form Polymers Alkenes are able to join together in a process called addition polymerisation because they can open up their double bonds and join (or add) together to form a chain. Naming polymers</p> 
3	Condensation polymerisation	<p>When different Monomers are added together they create a secondary product usually water. The different monomers will have different functional groups. General rule: 1) Dicarboxylic acid + dialcohol \rightarrow polyester 2) Diol + dicarboxylic acid \rightarrow polyester + water 3) Dicarboxylic acid + diamine \rightarrow polyamide</p>
4	Naturally occurring polymers	<p>Amino acids are naturally occurring molecules that contain two functional groups. They have an amine group at one end of the molecule and a carboxylic acid group at the other.</p>
5	Natural polymers	<p>Sugars can undergo polymerisation in living things to make polymers, such as starch and cellulose.</p>

Functional Groups

1 Alcohols

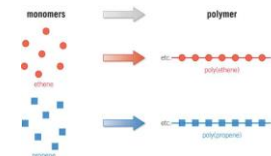
Number of C in chain	Start of name	Full name
1		
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3		
4		

2 Esters

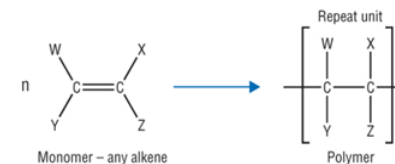
3 Carboxylic acids

Polymerisation

1 Polymers



2 Addition polymerisation



3 Condensation polymerisation

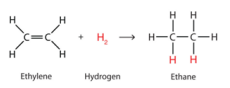
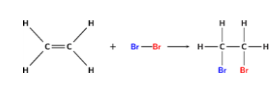
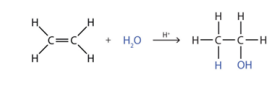
4 Naturally occurring polymers

5 Natural polymers


Reactions of Alcohol

1	Combustion	Ethanol is used as a fuel so combustion is common reaction for most alcohols.
2	With sodium	When reacting with Alkali metals It effervesces with Hydrogen gas.
3	Oxidation	When alcohols are oxidised they produce a Weak Acid Can use an oxidising agent to form a Carboxylic Acid . Ethanol + Oxidising agent \rightarrow Ethanoic Acid + Water $C_2H_5OH + [O] \rightarrow C_2COOH + H_2O$

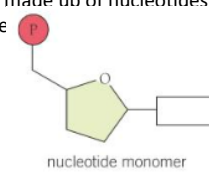
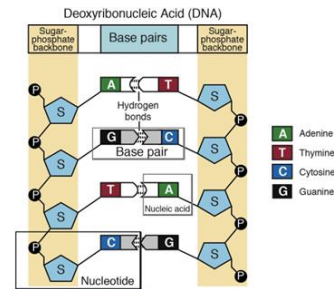
Reactions of Alkenes

1	Reaction with hydrogen	 <p>Ethylene Hydrogen Ethane</p>
2	Reactions with halogens	Naming : Give the name of the Halide first but; Chloro, Bromo and Iodo. 
3	Reaction with water	Can be added across the double bond by reacting an alkene with steam in the presence of a hot phosphoric acid catalyst. This reaction will only happen at 300°C and with the use of a nickel catalyst. 

Fermentation

1	$C_6H_{12}O_6 \rightarrow 2 C_2H_5OH + 2 CO_2$ <p style="text-align: center;">glucose ethanol carbon dioxide</p>
2	

DNA

1	Structure	<p>DNA molecules are two polymer chains twisted together into a double helix. Each polymer chain is made up of nucleotides which are made up of a base, a sugar and a phosphate</p>  <p style="text-align: center;">nucleotide monomer</p>
2	Bases	There are four bases and the interaction between the bases on each polymer strand holds the two DNA strands together and forms the double helix.
3	Base pairing	<p>These four bases can only interact with others in pairs. Adenine (A) always pairs with thymine (T) and Cytosine (C) always pairs with Guanine (G).</p> <p style="text-align: center;">Deoxyribonucleic Acid (DNA)</p> 


Reactions of Alcohol

1	Combustion	
2	With sodium	
3	Oxidation	

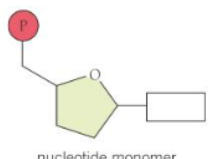
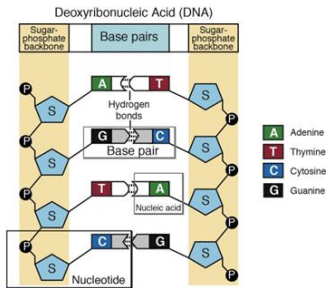
Reactions of Alkenes

1	Reaction with hydrogen	$ \begin{array}{c} \text{H} & & \text{H} \\ & \backslash & / \\ & \text{C} = \text{C} \\ & / & \backslash \\ \text{H} & & \text{H} \end{array} + \text{H}_2 \rightarrow \begin{array}{c} \text{H} & \text{H} \\ & \\ \text{H}-\text{C}-\text{C}-\text{H} \\ & \\ \text{H} & \text{H} \end{array} $ <p style="text-align: center;">Ethylene Hydrogen Ethane</p>
2	Reactions with halogens	$ \begin{array}{c} \text{H} & & \text{H} \\ & \backslash & / \\ & \text{C} = \text{C} \\ & / & \backslash \\ \text{H} & & \text{H} \end{array} + \text{Br}-\text{Br} \rightarrow \begin{array}{c} \text{H} & \text{H} \\ & \\ \text{H}-\text{C}-\text{C}-\text{H} \\ & \\ \text{Br} & \text{Br} \end{array} $
3	Reaction with water	$ \begin{array}{c} \text{H} & & \text{H} \\ & \backslash & / \\ & \text{C} = \text{C} \\ & / & \backslash \\ \text{H} & & \text{H} \end{array} + \text{H}_2\text{O} \xrightarrow{\text{H}^+} \begin{array}{c} \text{H} & \text{H} \\ & \\ \text{H}-\text{C}-\text{C}-\text{H} \\ & \\ \text{H} & \text{OH} \end{array} $

Fermentation

1		
2		

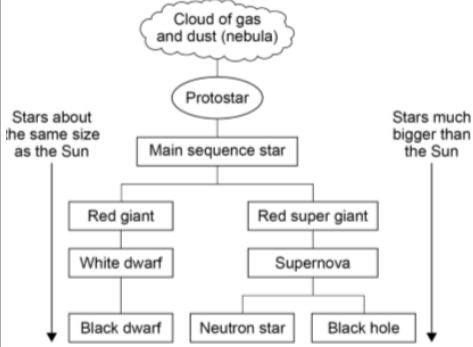
DNA

1	Structure	 <p style="text-align: center;">nucleotide monomer</p>
2	Bases	
3	Base pairing	 <p style="text-align: center;">Deoxyribonucleic Acid (DNA)</p> <p>Legend:</p> <ul style="list-style-type: none"> A Adenine T Thymine C Cytosine G Guanine

Our solar system is made up of ...

1	Sun	The largest object in the Solar System. Powered by nuclear fusion.
2	Planets	They orbit the Sun. Generally, as the distance between the planet and the Sun increases, the temperature on the planet decreases and the time taken to orbit the Sun increases.
3	Moons	Natural satellites that orbit planets.
4	Dwarf planets	Unlike planets, their gravitational field is not strong enough to 'clear the neighbourhood' around it.
5	Asteroids	Move in elliptical orbits around the Sun. Made of metals and rock.
6	Comets	Orbit the Sun. Made of rock, dust and ice.


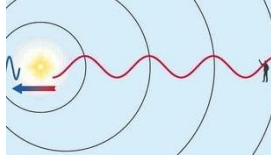
Life cycle of a star

1	Stars form from nebula that collapse inwards due to gravity. This causes the dust and gas to heat up. Eventually it is hot enough for fusion to occur and a star is born.	
2	A star goes through a life cycle. The life cycle is determined by the size of the star.	

Orbital motion

1	Planets orbit stars. Moons and artificial satellites orbit planets. This is possible due to gravity.	
2	When moving in circular orbits objects can have a changing velocity, even if their speed is constant, as when moving in a circle their direction is constantly changing (remember velocity has size & direction).	
3	For a satellite in a stable orbit, the radius must change if the speed changes.	If it is too fast, it will move off into space. If it is too slow, it will spiral into Earth.

Red shift

1		White light arriving at Earth from stars has certain colours (wavelengths) missing.
2	The dark lines in the absorption spectrum from stars in distant galaxies have all been shifted towards the red end of the spectrum (red-shifted).	
3	This shift tells us that the wavelength of their light has been stretched, indicating that these stars are moving away from Earth.	
4	The more red-shifted the light from a galaxy is, the faster the galaxy is moving away from Earth. Galaxies that are further away are moving away from us fastest (shown by observations from supernovae).	
5	Red shift provides evidence that space is expanding which supports the Big Bang theory.	
6	There is still much about the universe that is not understood, for example dark mass and dark energy.	

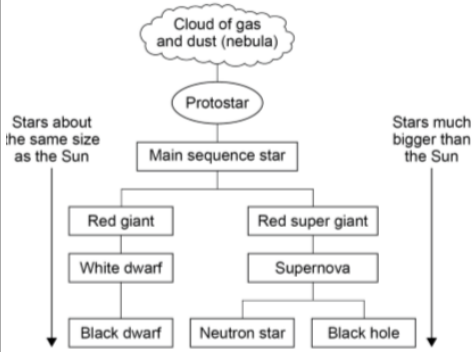
Key Vocabulary

1	Galaxy	A system of billions of stars held together by gravitational attraction. Our solar system is in the Milky Way galaxy.
2	Nebula	A large cloud of gas and dust from which stars form.
3	Nuclear fusion	Light nuclei (e.g. hydrogen) join together to produce heavier nuclei and energy. Leads to the production of new elements.
4	Protostar	A very young star that is still gathering mass.
5	Main sequence star	The stable phase in a star's life. The gravity pulling the star inwards is balanced by the outward pressure produced by fusion.
6	Red giant	When all the hydrogen has been used up in fusion, larger nuclei begin to fuse. The star expands to become a red giant.
7	White dwarf	Nuclear reactions have finished. The star contracts under its own gravity.
8	Supernova	The explosion of a large star. Produces elements heavier than iron.
9	Black hole	A region where gravity is so strong that nothing can escape.
10	Red shift	There is an observed increase in the wavelength of light from distant galaxies.
11	Big bang theory	The universe began from a very small, hot, dense point.

Our solar system is made up of ...

1	Sun	
2	Planets	
3	Moons	
4	Dwarf planets	
5	Asteroids	
6	Comets	


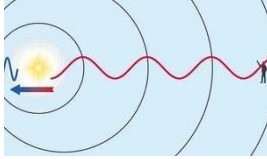
Life cycle of a star

1	Stars form from	
2	A star goes through a life cycle. The life cycle is determined by the size of the star.	

Orbital motion

1	Planets orbit	
2	When moving in circular orbits objects can have a changing	
3	For a satellite in a stable orbit, the radius must	<p>If it is too fast, it will</p> <p>If it is too slow, it will</p>

Red shift

1	 <p>Absorption spectrum</p>	White light arriving at Earth from stars
2	The dark lines in the absorption spectrum	
3	This shift tells us	
4	The more red-shifted the light from a galaxy is,	
5	Red shift provides evidence that	
6	There is still much about the universe	

Key Vocabulary

1	Galaxy	
2	Nebula	
3	Nuclear fusion	
4	Protostar	
5	Main sequence star	
6	Red giant	
7	White dwarf	
8	Supernova	
9	Black hole	
10	Red shift	
11	Big bang theory	

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

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 cinema/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

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	J'achète	
12	Je trouve	
13	Je travaille	
14	Je pense	
15	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	

Near Future Tense – I am going to...		
1	Je vais être	
2	Je vais avoir	
3	Je vais aller	
4	Je vais faire	
5	Je vais jouer	
6	Je vais regarder	
7	Je vais manger	
8	Je vais acheter	
9	Je vais travailler	
10	Je vais voir	
11	Je vais boire	
12	Je vais devenir	
13	Je vais voyager	
14	ce sera	

Conditional Tense – I would like to...		
1	Je voudrais être	
2	Je voudrais avoir	
3	Je voudrais aller	
4	Je voudrais faire	
5	Je voudrais jouer	
6	Je voudrais regarder	
7	Je voudrais manger	
8	Je voudrais acheter	
9	Je voudrais travailler	
10	Je voudrais voir	
11	Je voudrais boire	
12	Je voudrais devenir	
13	Je voudrais voyager	
14	ce serait	

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

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

Imperfect Tense		
1	J'étais	
2	J'avais	
3	C'était	
4	il y avait	

Sentence Starters

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

Connectives

1	et	
2	ou	
3	où	
4	parce que	
5	car	
6	mais	
7	pourtant	
8	aussi	

Intensifiers

1	un peu	
2	assez	
3	très	
4	vraiment	
5	beaucoup	
6	trop	

Adjectives

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

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	
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5	ne...jamais	
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8	quelquefois	

Exclamations!!!

1	Quel dommage!	
2	Quel plaisir!	

Perfect Phrases For Any Essay

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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
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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

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
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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

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	
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	

Exclamations!!!

1	Quel dommage!	
2	Quel plaisir!	

Adjectives

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

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

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

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

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.

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	

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	

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	

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
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9	Ich esse	I eat
10	Ich trinke	I drink
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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
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5	Ich habe gemacht	I did/made
6	Ich habe gespielt	I played
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Using Geben		
1	es gibt	There is/are
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1	...sein	be
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11	...machen	make/do
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Structures With Infinitives		
1	ich muss...machen	I have to do
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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

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
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10	schwierig	difficult
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Exclamations!!!

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

Signposting Time Frames

1	letztes Jahr	last year
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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

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	
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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	

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	

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	

Sentence Starters

1	meiner Meinung nach	
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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	
9	weil/da	
10	dass	
11	obwohl	
12	wenn	

Intensifiers

1	ein bisschen	a bit
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	

Exclamations!!!

1	Wie Schade!	
2	Wahnsinn!	

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	

Frequency

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

Fancy Phrases

1	es hat eine Menge Spaß gemacht	
2	ich habe mich wirklich amüsiert	
3	es hat sich wirklich gelohnt	
4	das hat mir gefallen	
5	ich hätte nie gedacht	
6	je (heißer), desto besser	
7	ich freue mich schon darauf	
8	es wird bestimmt viel Spaß machen	

A. Food, water and energy are fundamental to human development.

1	Food	Food provides calories and energy for people to be healthy and able to work. This is essential for economic and human development.
2	Water	Used for survival, washing, food production, industry. Clean, safe water enables development and allows people to break free from the cycle of poverty.
3	Energy	Traditionally we get energy from oil, coal and wood. Many different sources are generated by changing technology. Used for electricity production, heating, transport and for water supply (e.g. wells). Supports industrialisation and development.

B. The changing demand and provision of resources in the UK create opportunities and challenges.

1	HIC's surplus	HIC's have a greater consumption of Food, water and energy. They don't always have a ready supply within their country but are able to purchase this using their wealth.
2	LIC's deficit	LIC's have a lower consumption of Food, Water and Energy as they are unable to compete with the wealth. In some LIC's food is exported to HIC's as they can afford to pay higher prices.
3	Energy mix	Due to the high consumption of fossil fuels HIC's have a greater carbon footprint. However as fossil fuels decrease the energy mix of these countries will change as they are forced to use alternative sources.
4	Carbon foot print	As a result of higher consumption of food, water and energy HIC's have a higher carbon footprint.

C. Demand for food resources is rising globally but supply can be insecure, which may lead to conflict.

1	Food inequality	The global supply of food is uneven. Countries like China and India have high agricultural outputs. The USA, Brazil and UK also achieve high outputs due to intensive farming methods and high capital investment. Countries in sub-Saharan Africa produce less food because they have unreliable rainfall, drought, low investment and lack of education and training.
2	Food insecurity	Many LIC's suffer from food insecurity which can lead to problems such as, famine, undernutrition, soil erosion and social unrest.
3	Famine	Famine is a widespread food shortage of food often causing malnutrition, starvation and death. Famine in Somalia 2010-2012 258,000 people died. 18% of child population died due to lack of food. Rising food prices can make this matter even worse.
4	Undernourished	This is the lack of a balanced diet. It is a major public health problem in sub-Saharan Africa. Diets in these regions are frequently lacking in protein, carbohydrates, vitamins and minerals.
5	Soil erosion	This involves the removal of fertile top soil layers by wind and water as a result of overgrazing, deforestation and over cultivation.
6	Social unrest	The 21 st century has seen lots of social unrest- especially in North Africa and the Middle East. 'Food riot' correspond with high prices in food.

D. Different strategies can be used to increase food supply.

1	Thanet Earth	There are 7 greenhouses, each the size of 10 football pitches which are used to grow salad, pepper, tomatoes and cucumbers throughout the year. It uses hydroponics (when plants are grown in nutrient solutions) It aims to be sustainable- each greenhouse has its own power station to provide heat and lighting and collects rainwater from the roofs to provide water.
2	Jamaplur	Rice-fish culture is where small local fish are introduced to the paddy fields. The small fish are safely hidden from predators (birds) among the rice plants. The fish provide a natural fertilizer with their droppings, eat insects and pests and help to circulate oxygen in the water around the rice plants.

A. Food, water and energy are fundamental to human development.

1	Food	
2	Water	
3	Energy	

B. The changing demand and provision of resources in the UK create opportunities and challenges.

1	HIC's surplus	
2	LIC's deficit	
3	Energy mix	
4	Carbon foot print	

C. Demand for food resources is rising globally but supply can be insecure, which may lead to conflict.

1	Food inequality	
2	Food insecurity	
3	Famine	
4	Undernourished	
5	Soil erosion	
6	Social unrest	

D. Different strategies can be used to increase food supply.

1	Thanet Earth	
2	Jamaplur	

1) Agribusiness	Application of business skills to agriculture.
2) Carbon footprint	A measurement of all the greenhouse gases we individually produce, through burning fossil fuels for electricity, transport etc, expressed as tonnes (or kg) of carbon-dioxide equivalent.
3) Energy mix	The range of energy sources of a region or country, both renewable and non-renewable.
4) Food miles	The distance covered supplying food to consumers.
5) Fossil fuel	A natural fuel such as coal or gas, formed in the geological past from the remains of living organisms.
6) Local food sourcing	A method of food production and distribution that is local, rather than national and/or international. Food is grown (or raised) and harvested close to consumers' homes, then distributed over much shorter distances.
7) Organic produce	Food which is produced using environmentally and animal friendly farming methods on organic farms. Artificial fertilisers are banned and farmers develop fertile soil by rotating crops and using compost, manure and clover. It must be free of synthetic additives like pesticides and dyes.
8) Resource Management	The control and monitoring of resources so that they do not become depleted or exhausted.
9) The new green revolution	A combination of modern technology, traditional knowledge and an emphasis on farming, social and agro-ecological systems as well as yields, especially in poorer countries. At the same time, it emphasizes alternative approaches and improved farm management and information systems in order to minimise environmental damage from external inputs and benefit poor farmers and marginal areas bypassed by the original green revolution.
10) Undernutrition	This occurs when people do not eat enough nutrients to cover their needs for energy and growth, or to maintain a healthy immune system.
11) Urban farming	The growing of fruits, herbs, and vegetables and raising animals in towns and cities, a process that is accompanied by many other activities such as processing and distributing food, collecting and reusing food waste.

12) Aeroponics	Growing plants in an air or mist environment without the use of soil.
13) Biotechnology	The manipulation (through genetic engineering) of living organisms to produce useful commercial products (such as pest resistant crops and new bacterial strains).
14) Famine	A widespread, serious, shortage of food. In the worst cases it can lead to starvation and even death.
15) Food insecurity	Being without reliable access to a sufficient quantity of affordable, nutritious food. More than 800 million people live every day with hunger or food insecurity.
16) Food security	When people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life.
17) Hydroponics	A method of growing plants using mineral nutrient solutions, in water, without soil.
18) Irrigation	Applying water to land in order to supply crops and other plants with necessary water.
19) Permaculture	A system of agricultural and social design principles based upon or directly using patterns and features observed in natural ecosystems.
20) Sustainable development	Development that meets the needs of the present without limiting the ability of future generations to meet their own needs.
21) Sustainable food supply	Food that is produced in ways that avoid damaging natural resources, provide social benefits such as good quality food and safe and healthy products, and contribute to local economies.

1) Agribusiness	
2) Carbon footprint	
3) Energy mix	
4) Food miles	
5) Fossil fuel	
6) Local food sourcing	
7) Organic produce	
8) Resource Management	
9) The new green revolution	
10) Undernutrition	
11) Urban farming	

12) Aeroponics	
13) Biotechnology	
14) Famine	
15) Food insecurity	
16) Food security	
17) Hydroponics	
18) Irrigation	
19) Permaculture	
20) Sustainable development	
21) Sustainable food supply	

What did Medieval people believe about the causes of disease?

1	What were supernatural causes of disease?	<ol style="list-style-type: none"> Disease was sent as a punishment for sins from God. Witches or other supernatural beings cursing people.
2	What were natural causes of disease?	<ol style="list-style-type: none"> The Four Humours were unbalanced. The alignment of the planets. Miasma – the belief that bad smells caused disease.
3	What were the Four Humours?	<ol style="list-style-type: none"> Ancient Greek doctor Hippocrates came up with the idea that the body was made up of four liquids: blood, phlegm, black bile, and yellow bile. These humours needed to be in balance for a person to be healthy.

How did Medieval people treat disease?

1	What were common treatments of disease?	<ol style="list-style-type: none"> Treatments were linked to the believed causes. Rebalance the humours through bloodletting and purging. Herbal remedies.
2	How did religion impact treatments?	<ol style="list-style-type: none"> Prayer was a common treatment of disease. Flagellants whipped themselves as punishment to try and prevent contracting the Black Death.
3	Where could people go for treatment?	<ol style="list-style-type: none"> Doctors – they were trained in university but were very expensive Apothecary – these were people who sold medicines. They were also very expensive Barber Surgeons – these were barbers who used their tools to do surgery and dentistry Wise women – these were village healers who used spiritual and herbal treatments. Monasteries – monks had some herbal knowledge but focused on care instead of cure. Their services were free.

What was Medieval surgery like?

1	Who performed surgery?	<ol style="list-style-type: none"> Most surgery was done by barber-surgeons There were also war surgeons, who treated people wounded on the battlefield Surgeons didn't go to university, but trained as apprentices
2	What problems were there with surgery?	<ol style="list-style-type: none"> Lack of knowledge Pain Infection Bleeding
3	What were common surgery techniques?	<ol style="list-style-type: none"> Cauterization – this sealed a wound up Amputation was common, especially for battle injuries. Barber surgeons could also deal with dislocated limbs. Trepanation was used to treat a epilepsy and persistent headaches

What was Medieval public health like?

1	What was a medieval city like?	<ol style="list-style-type: none"> Towns and cities were dirty and over crowded Many had open sewers that would overflow Most human waste was collected in cesspits emptied by gong farmers
2	Why were monasteries cleaner?	<ol style="list-style-type: none"> Monasteries were usually in the countryside away from diseases Monks had a religious duty to be clean Monasteries were usually near rivers which allowed them to have clean water and drainage
3	What was the Black Death?	<ol style="list-style-type: none"> It was an epidemic between 1348 and 1350. It caused swellings, called buboes, in the armpit and groin and was spread by fleas which carry the bacteria. Unsanitary conditions in the towns increased the spread of the disease.

Key word

Definition

Anatomy	The study of the human body
Barber Surgeon	Medieval barber who practiced surgery and dentistry
Blood letting	Medieval treatment of removing some blood from a patient by opening a vein or using leeches
Emetic	Substance that makes a patient vomit
Humours	4 liquids in the body that must be in balance for a person to be healthy
Miasma	Bad air/smells – it was believed up until the 19 th Century that this was the cause of disease
Monastery	A place where monks live and work
Purge	Making a patient be sick in order to balance their humours

Key People

1	Hippocrates	1.Created the Hippocratic Oath – doctors swear to do no harm
2	Galen	1.Used scientific theory to diagnose disease 2.Dissected animals, published his works.
3	John of Arderne	1.Created the Guild of Surgeons within London.
4	John Bradmore	1.Developed an instrument to remove arrows from wounds
5	Ibn Sina (Avicenna)	1.Wrote an encyclopedia of medicine known as Canon of Medicine
6	Al Razi	1.Wrote over 150 books. 2.Challenged some of Galen's ideas.

What did Medieval people believe about the causes of disease?

1	What were supernatural causes of disease?	
2	What were natural causes of disease?	
3	What were the Four Humours?	

How did Medieval people treat disease?

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Key word

Definition

Anatomy	
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Key People

1	Hippocrates	
2	Galen	
3	John of Arderne	
4	John Bradmore	
5	Ibn Sina (Avicenna)	
6	Al Razi	

What were Renaissance beliefs about the causes of disease?

1	What stayed the same?	1. People still believed strongly in the Four Humours theory 2. God was still believed by some to be the cause of illness 3. Miasma was still believed to cause illnesses
2	What changed?	1. The scientific method developed as people tested new ideas 2. Some progress in understanding of anatomy, however the church suppressed the writings that disagreed with Galen

What was Renaissance surgery like?

1	Why did surgery improve?	1. Gunpowder and cannons meant that soldiers got new wounds. 2. Field surgeons had to develop new techniques to treat them.
	How did surgery improve?	1. Greater understanding of anatomy due to the work and books by Vesalius and Harvey 2. Better training for doctors and surgeons
2	Impact of Paré	1. Army surgeon Paré ran out of oil to cauterise gunshot wounds and created a new lotion that had soothing anesthetic properties 2. He designed over 50 kinds of false body parts and made them for wounded soldiers 3. Paré experimented with ligatures to stop bleeding as an alternative to cauterisation
3	Impact of Hunter	1. Hunter set up his own anatomy school and surgical practice 2. His various books were widely read and he experimented with new techniques in surgery e.g. treating aneurysms 3. Hunter raised public interest in science with his collection of plant and animal species

What was Renaissance public health like?

1	What stayed the same?	1. Towns were still dirty and overcrowding 2. Little government involvement in people's health and living conditions
2	Hospitals and care	1. Church hospitals and monasteries stopped after Henry VIII dissolved the monasteries 2. Hospitals were set up by charities and local councils e.g. St Bartholomew's in London 3. Some hospitals were more specialist e.g. maternity hospitals 4. Hospitals would not admit people with infectious diseases 5. Most rich people still preferred to pay for home visits from doctors
3	Preventing disease	1. Inoculation against the deadly disease smallpox was dangerous and expensive 2. Through experimentation, doctor Edward Jenner proved that infecting someone with cowpox would protect them from smallpox. 3. Some rejected his work because he wasn't a well known doctor, it wasn't profitable for doctors and he couldn't explain how it worked 4. The government gave Jenner £30,000 to develop his idea and in 1852 made vaccination compulsory

How did Renaissance people treat disease?

1	What were treatments like?	1. Treatments still focused on balancing the four humours 2. Many still relied on supernatural cures e.g. people believed the King's touch could cure scrofula
2	Where could people get treatments?	1. People stopped using the church, but still visited wise women, doctors and apothecaries 2. Quacks - Travelling salesmen who would sell homemade medicines. These usually had no medical basis. 3. Herbals - Books, printed cheaply which contained herbal remedies
3	How did doctors' training change?	1. In a few hospitals, doctors were trained on the wards 2. Training emphasised the importance of observation 3. More doctors did dissections 4. In 1645 the Royal Society was set up for physicians to experiment and share ideas
4	What new treatments were there?	1. Rhubarb from Asia was used to purge the bowels 2. The bark from a South American tree made quinine and helped to treat fever and malaria 3. Tobacco was used to treat toothache, joint pains and for plague protection

Key word

Definition

Anatomy	The study of the human body	
Cauterisation	Using a heated iron or hot oil to seal a wound	
Cesspit	Pit for the disposal of liquid waste and sewage	
Epidemic	Spread of a disease to a large number of people	
Immunity	Protection from a disease	
Inoculation	Using a weakened but live germ of a disease to help a person build up immunity	
Ligatures	A thread used to tie blood vessels during surgery	
Quarantine	Isolating a sick person or household to stop the spread of a disease	
Smallpox	An infectious disease common until the 18 th Century	
Vaccination	Using the dead germs of a disease or	
Key People		
1	Vesalius	1.Increased anatomical knowledge through dissections and proved Galen wrong
2	Paré	1.Developed new surgical techniques and treatments
3	Harvey	1.Discovered how the heart circulated blood around the body and proved Galen wrong
4	John Hunter	1.Set up surgical schools and raised public interest in science
5	Jenner	1.Developed the first vaccination against smallpox

What were Renaissance beliefs about the causes of disease?

1	What stayed the same?	
2	What changed?	

What was Renaissance surgery like?

1	Why did surgery improve?	
	How did surgery improve?	
2	Impact of Paré	
3	Impact of Hunter	

What was Renaissance public health like?

1	What stayed the same?	
2	Hospitals and care	
3	Preventing disease	

How did Renaissance people treat disease?

1	What were treatments like?	
2	Where could people get treatments?	
3	How did doctors' training change?	
4	What new treatments were there?	

Key word

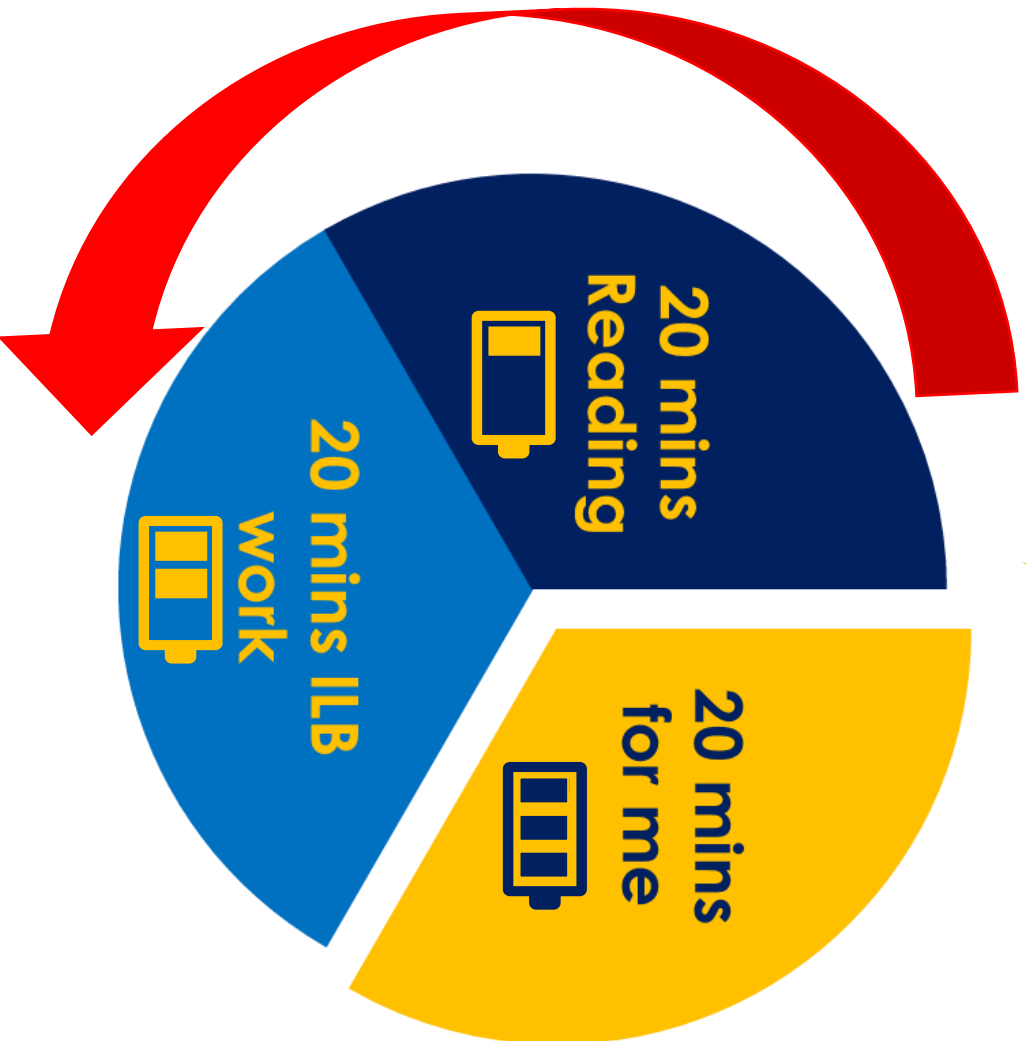
Definition

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Cauterisation	
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Key People

1	Vesalius	
2	Paré	
3	Harvey	
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The Beckfoot Power ⚡ Hour



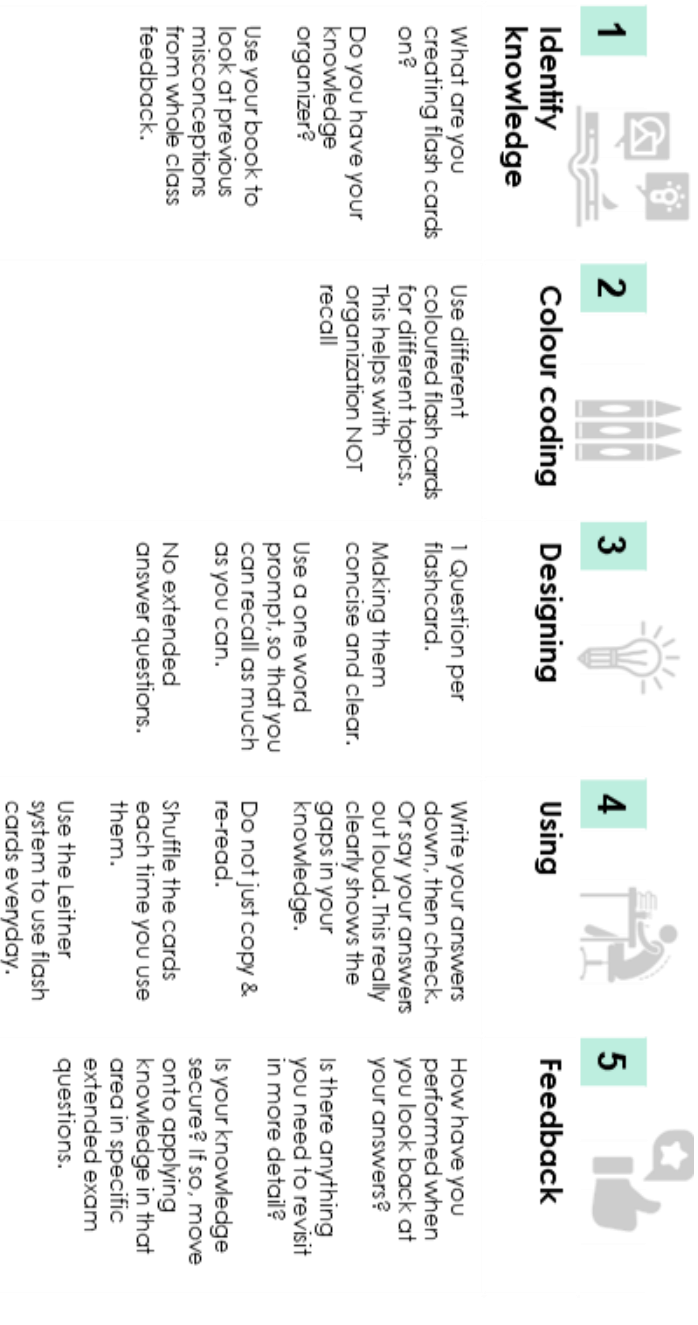
The Beckfoot Power Hour is a way to help you build positive routines around your independent learning. Little and often is the key!

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.

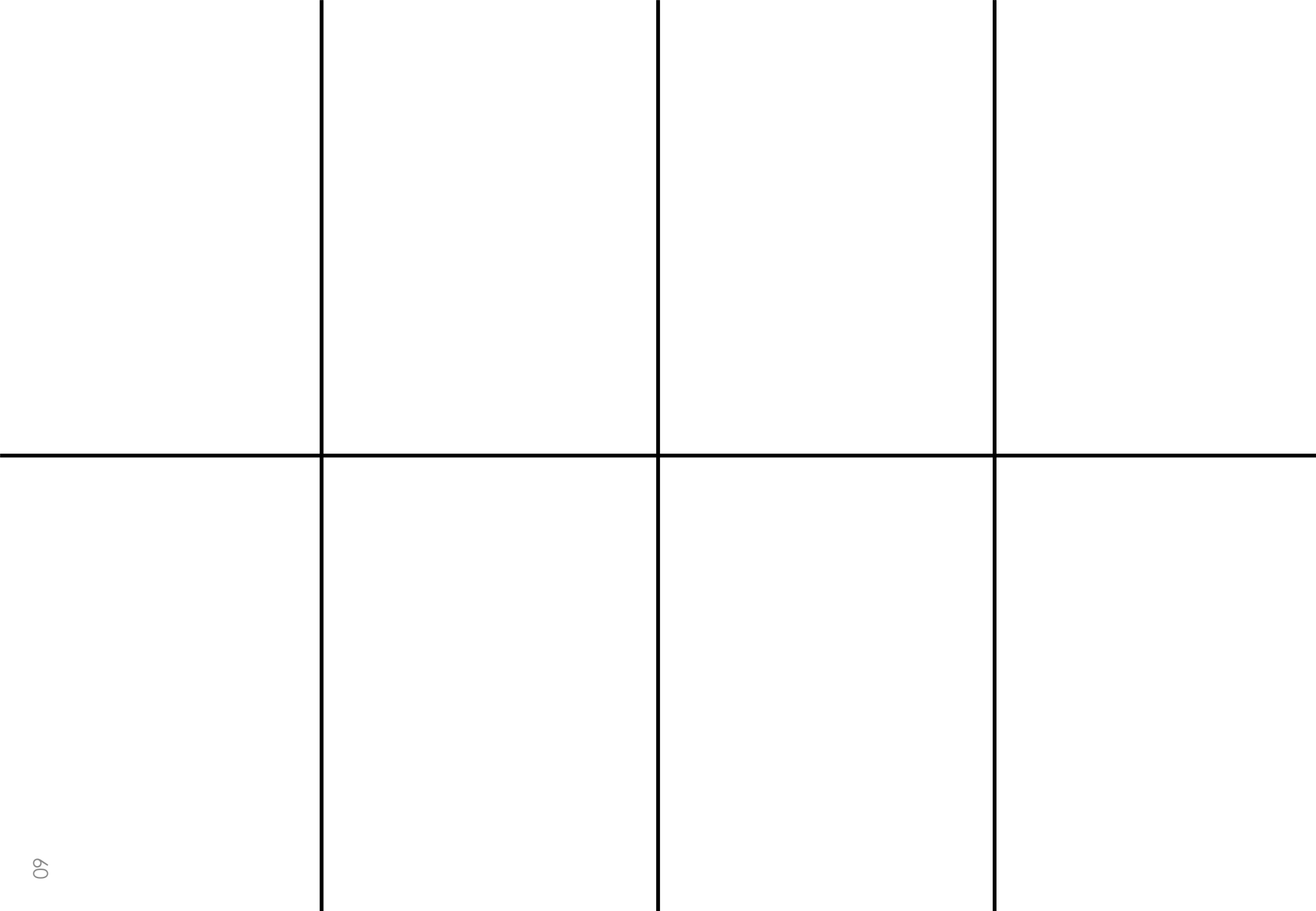
Flash Cards

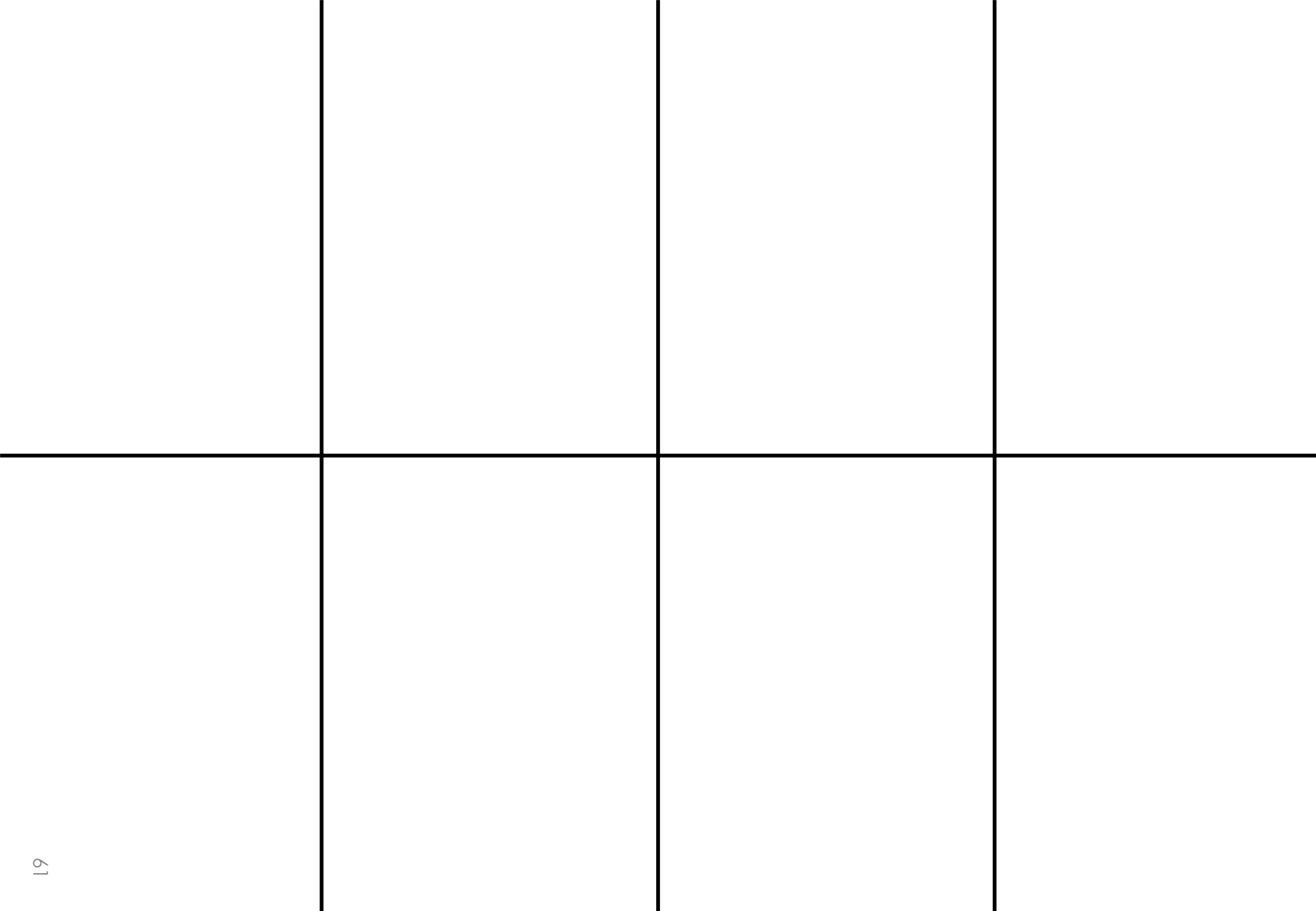


Avoid answering the questions in your head: research shows that when you read a question and answer it in your head, you aren't actually testing your knowledge effectively. Say the answer out loud or write it down before checking it against the card, so you are truly testing if you can explain the answer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



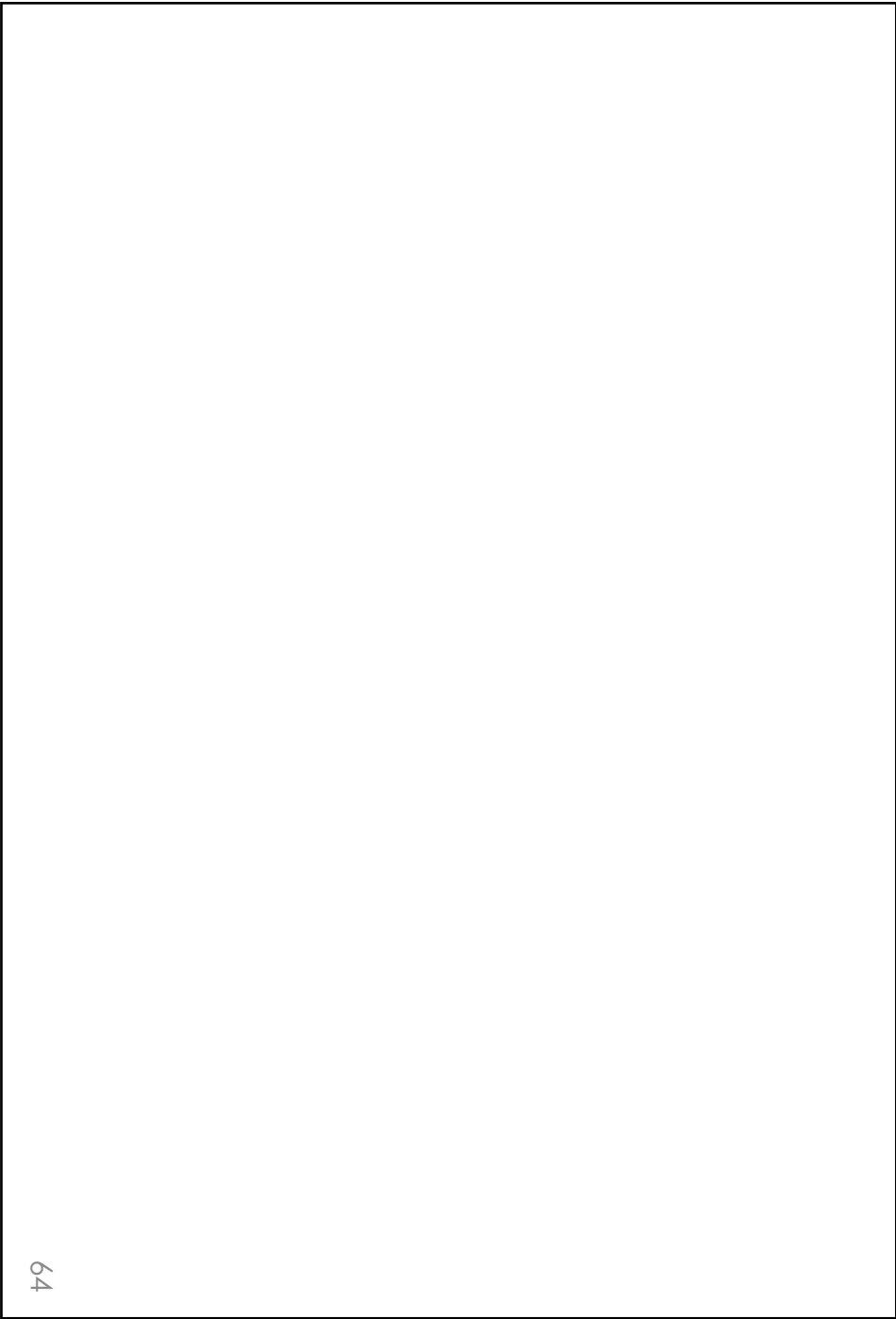
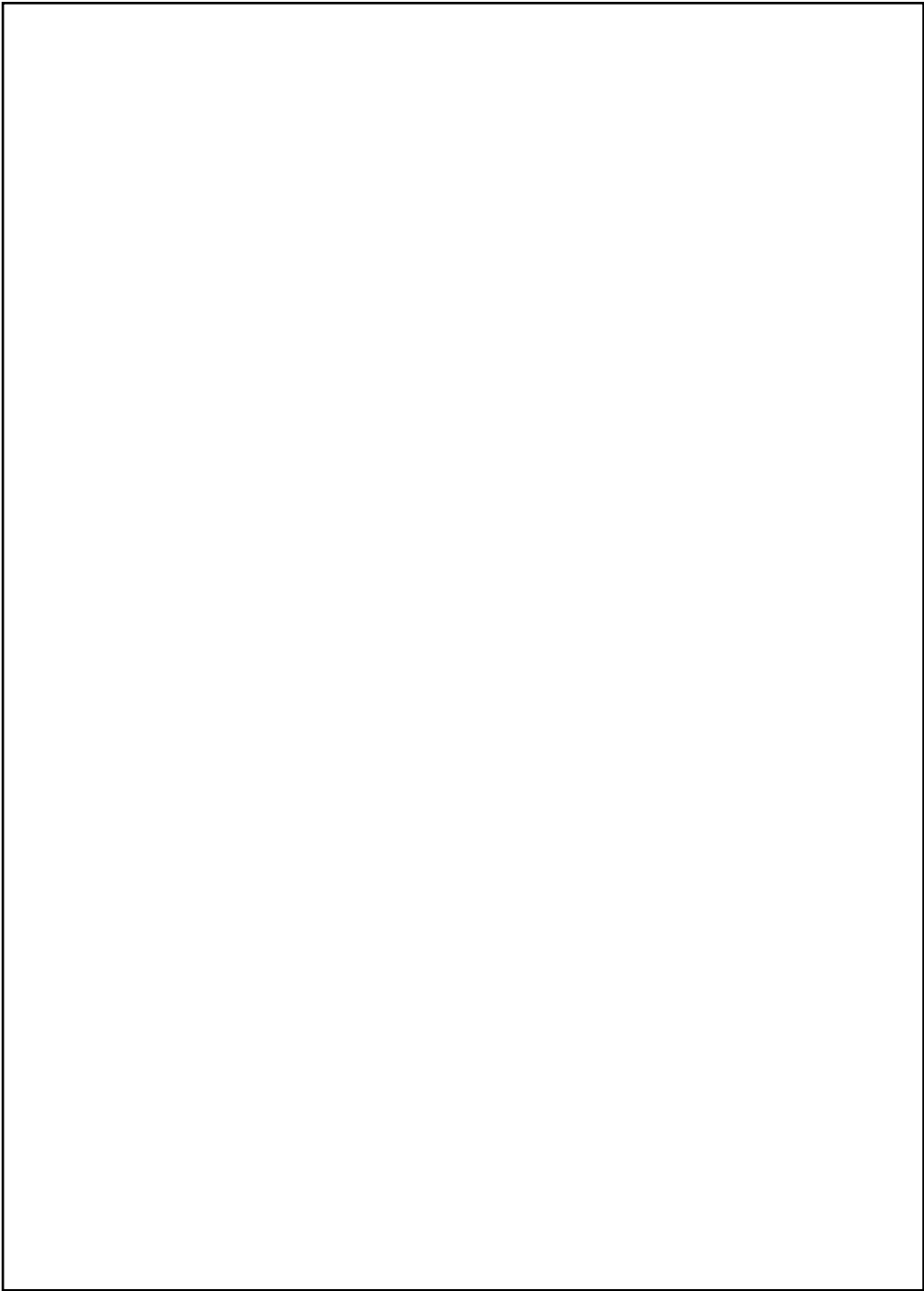
1	2	3	4	5
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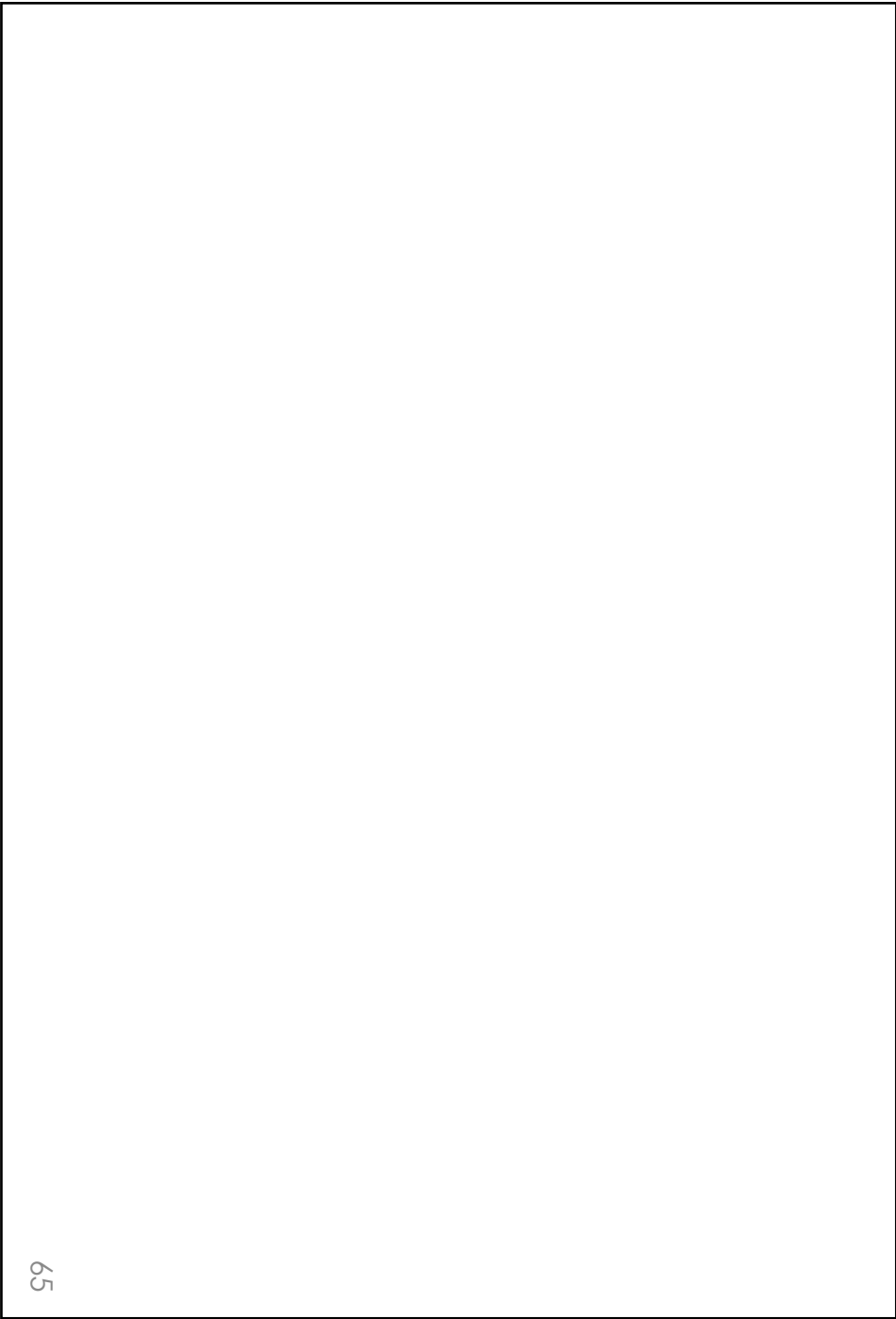
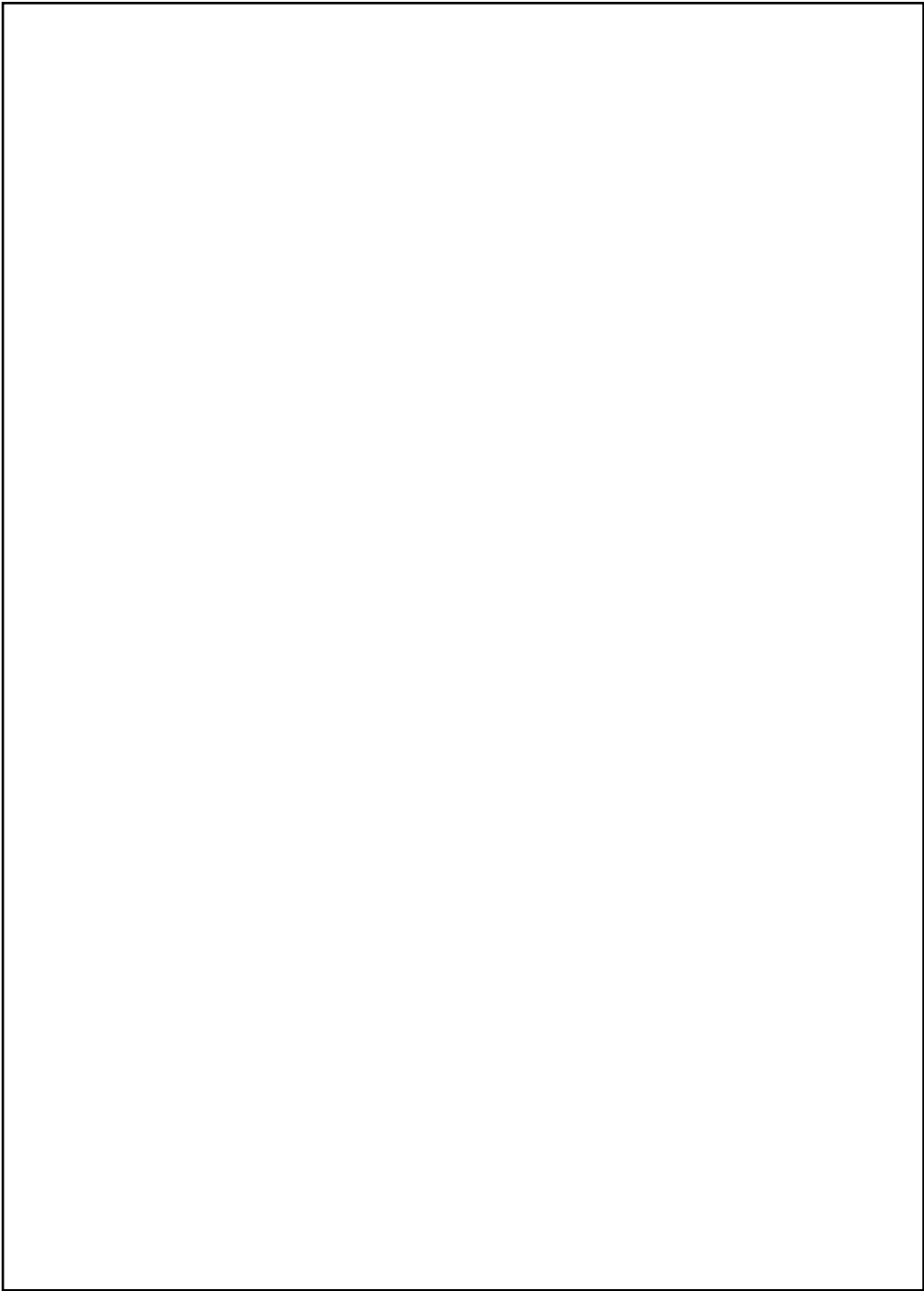
Identify knowledge	Identify sub topics	Branch off	Use images & colour	Put it somewhere visible
Select a topic you wish to revise. Have your class notes/knowledge organisers ready.	Place the main topic in the centre of your page and identify sub topics that will branch off.	Branch of your sub topics with further detail.	Use images and colour to help topics stick into your memory.	Place completed mind maps in places where you can see them frequently.

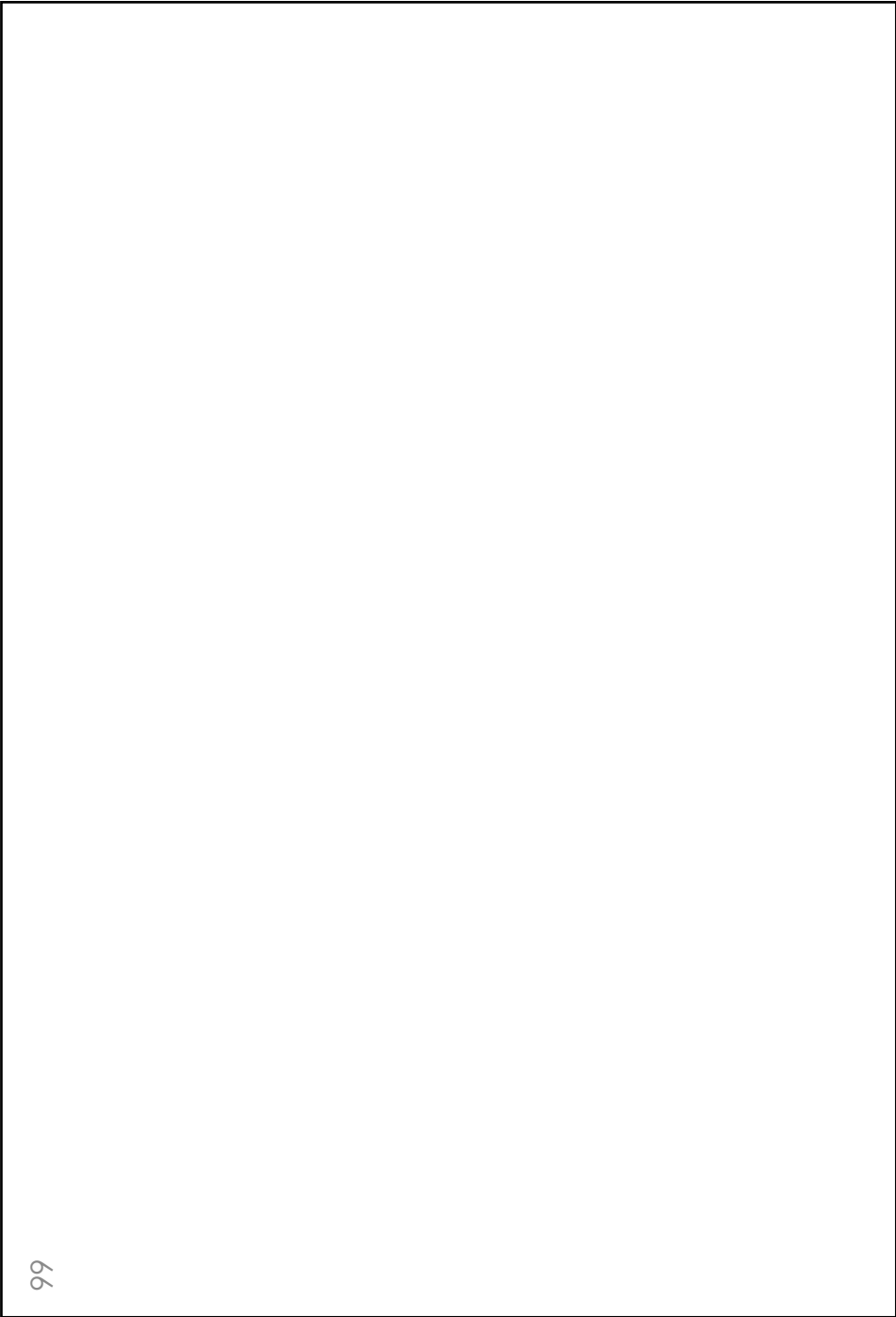
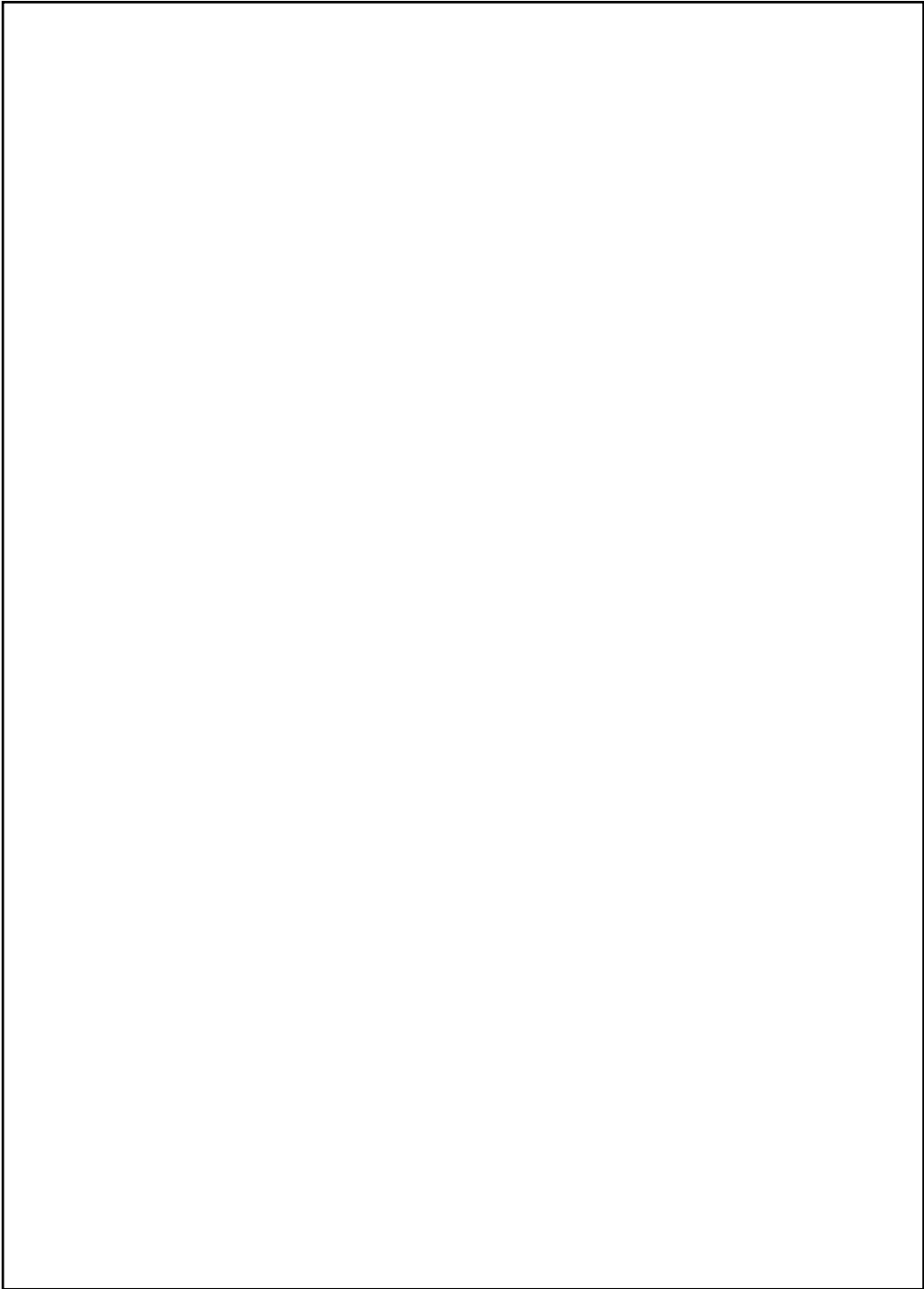
Avoid using too much information: mind maps are designed to summarise key information and connect areas of a topic/subject. If you overcrowd the page, you lose the point of the mind map and will find it harder to visualise the information when trying to recall it

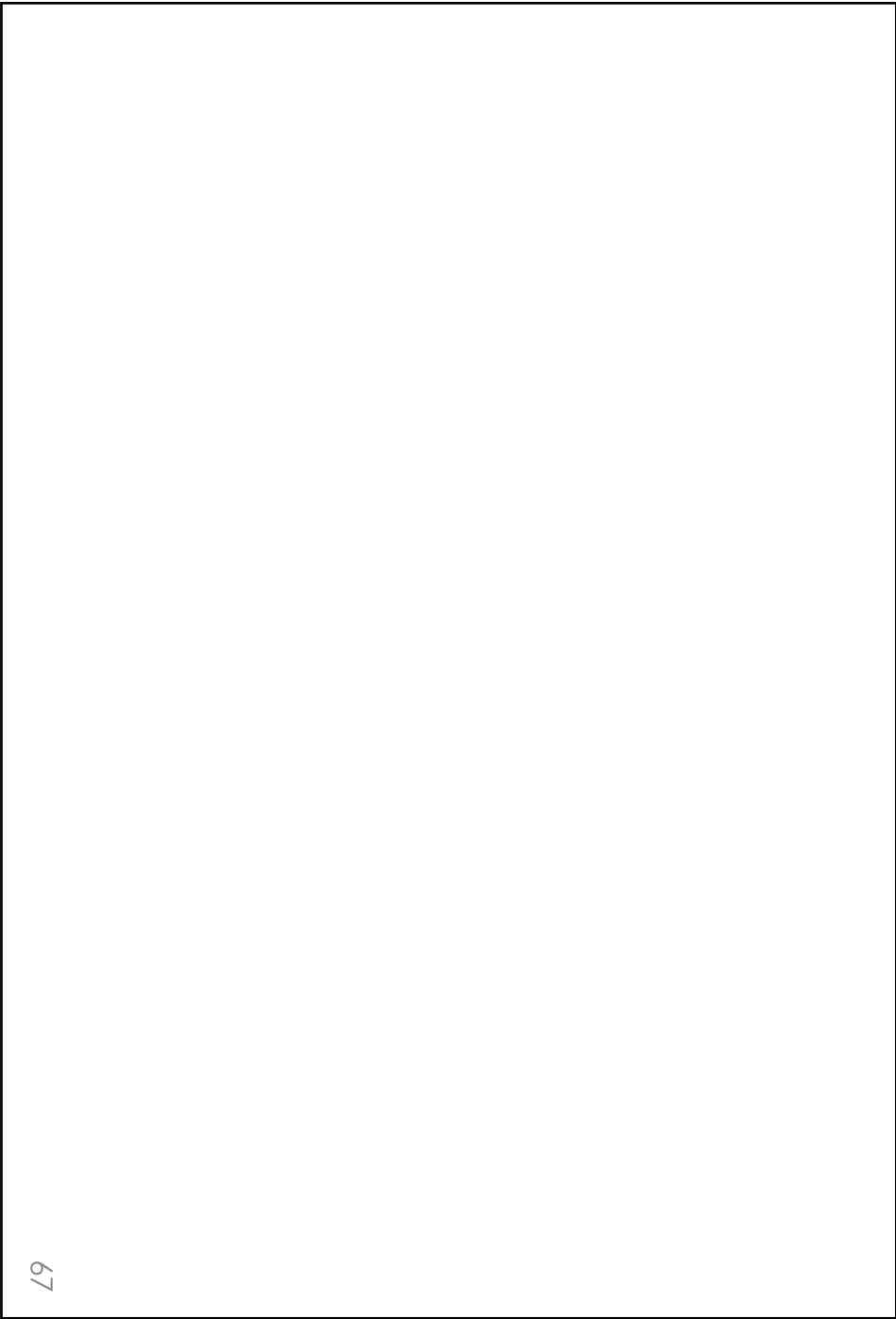
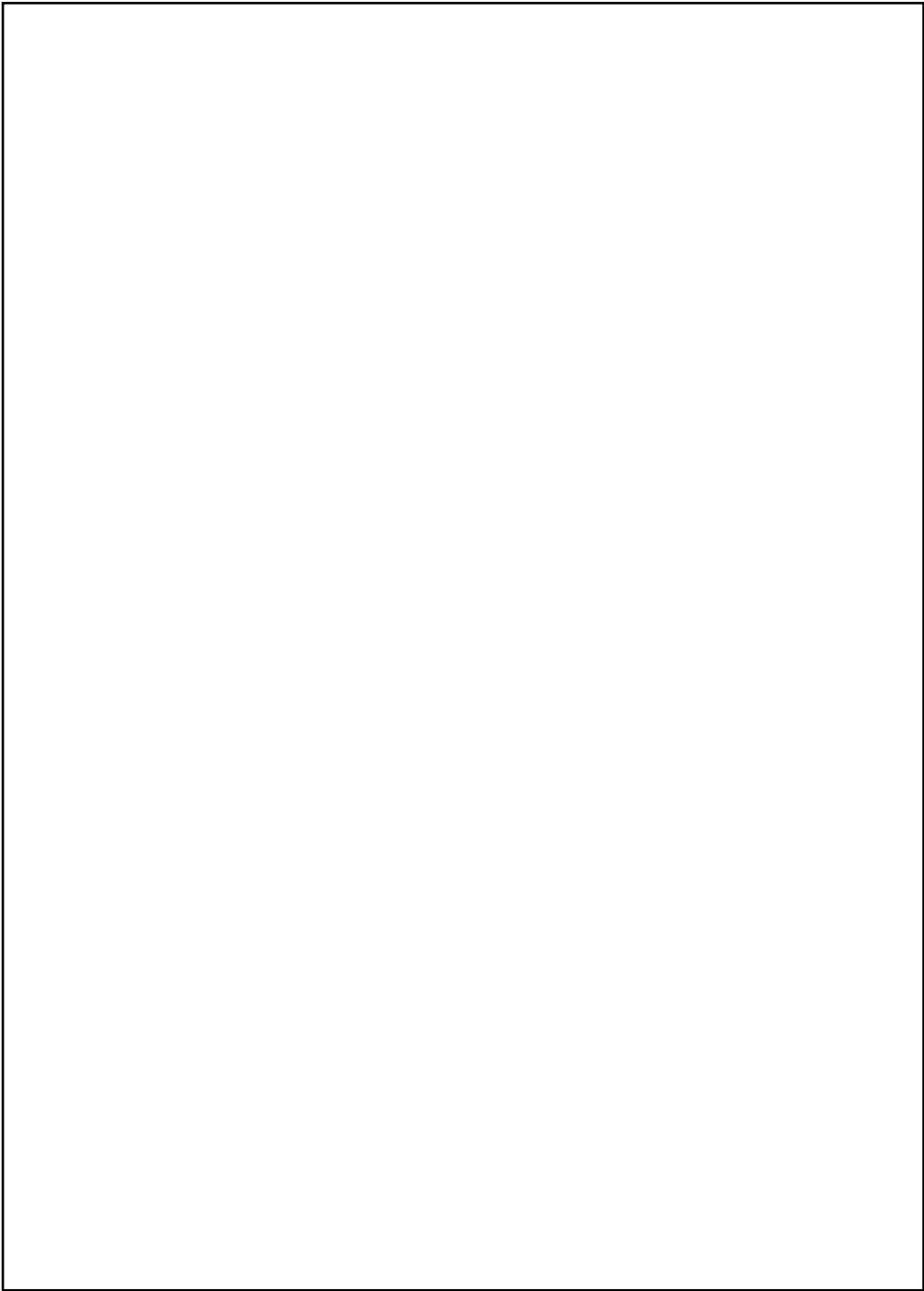
Use this table to help you keep track of the mind-maps you have completed and checked this half term. There are some mind-map templates for you to use overleaf.

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

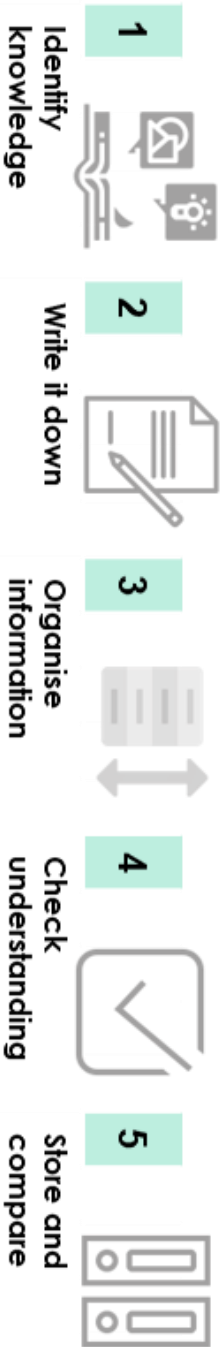








Brain-Dumps



Identify the knowledge/topic area you want to cover.

Take a blank piece of paper/white board and write down everything you can remember about that topic. (With no prompts)
Give yourself a timed limit (e.g. 10 minutes)

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

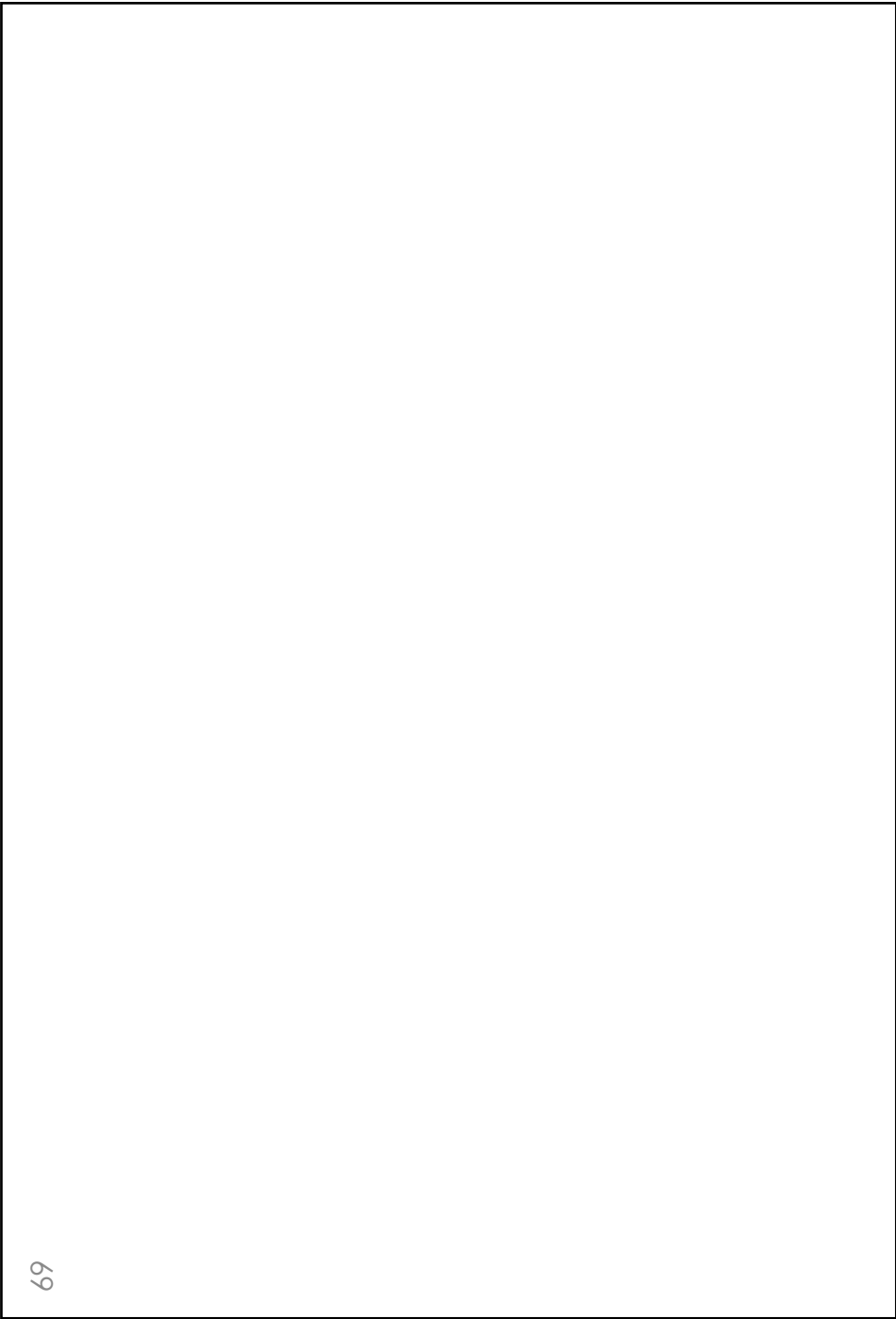
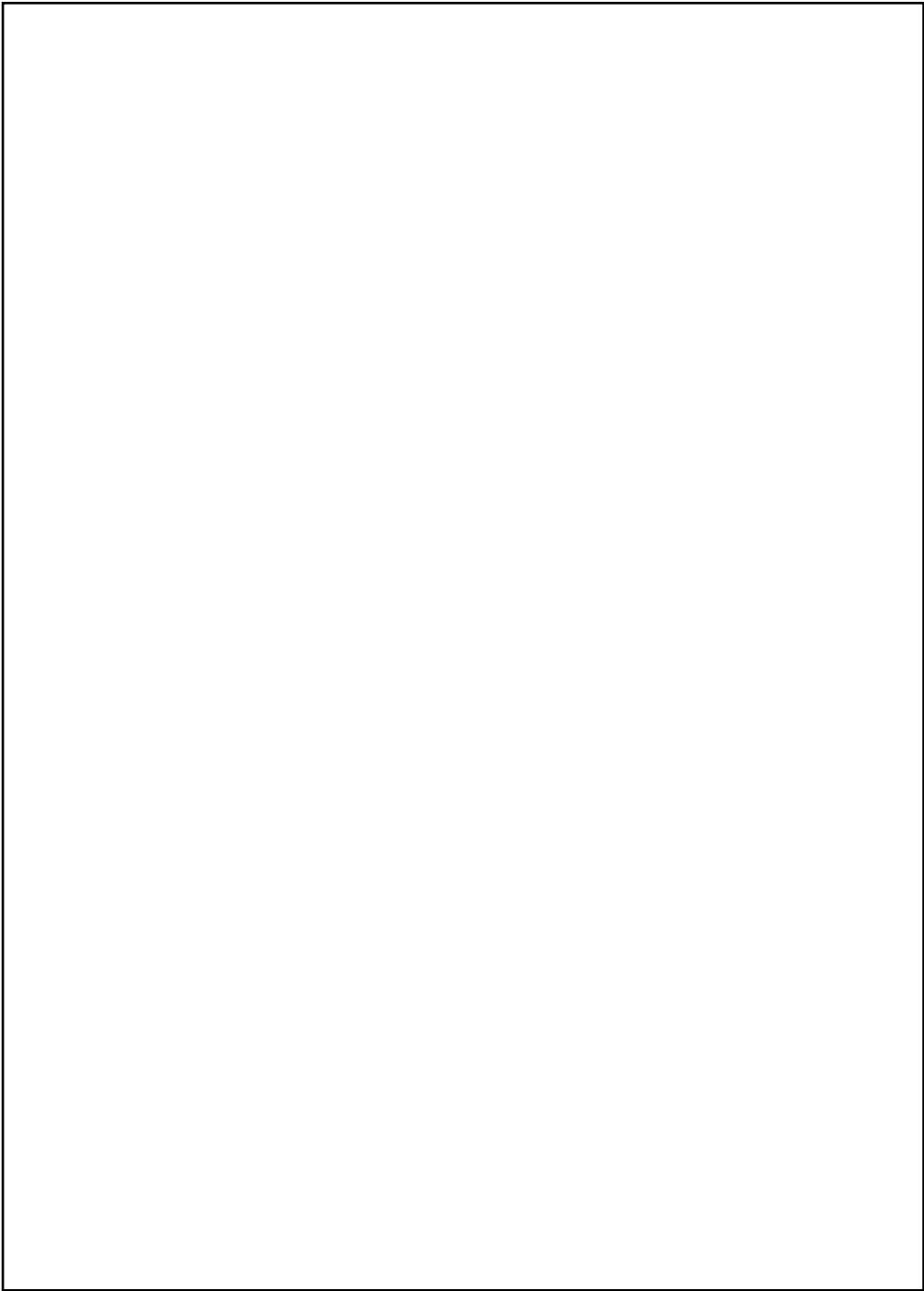
Compare your brain dump to your K/O or book and check understanding.
Add any key information you have missed (key words) in a different colour.

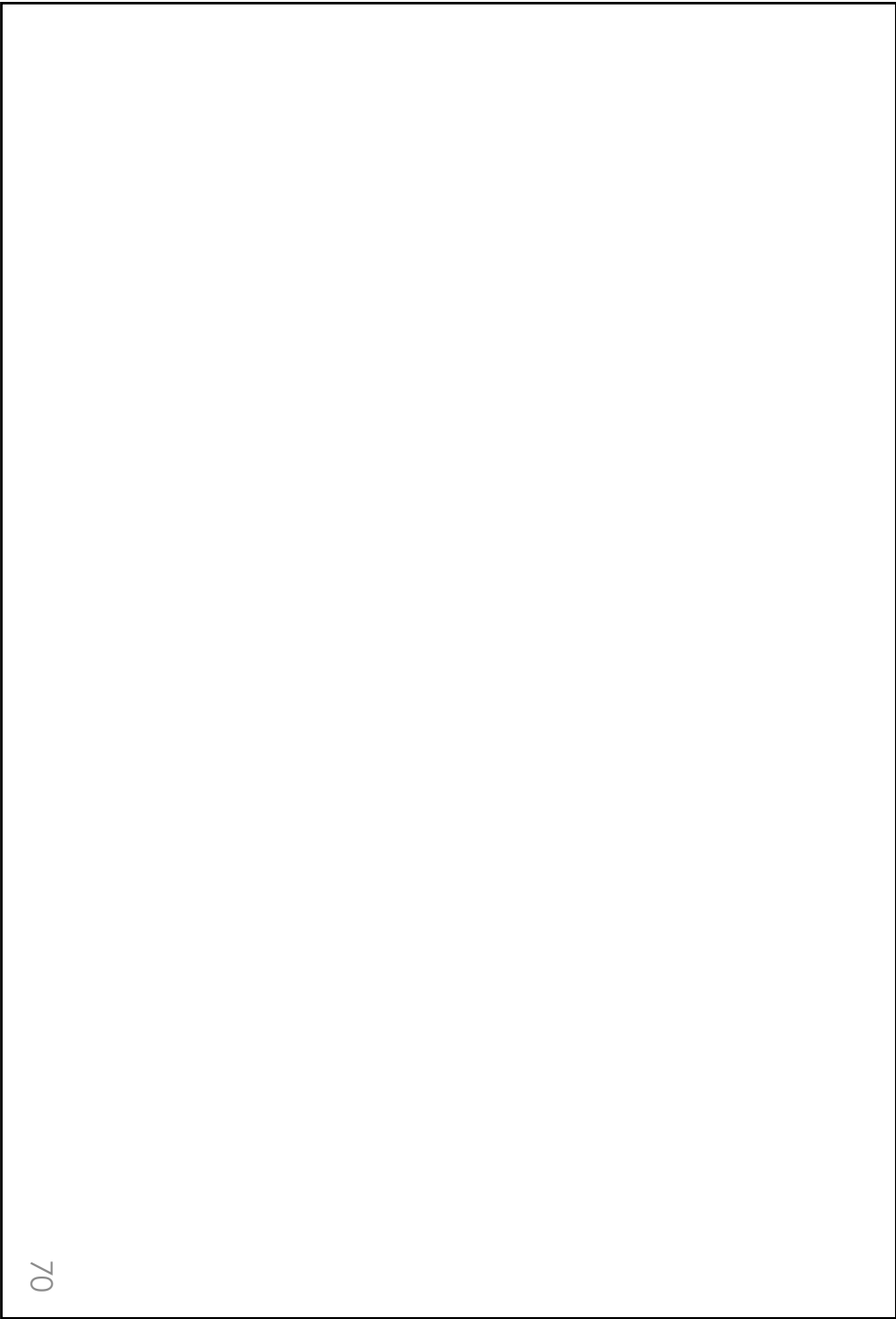
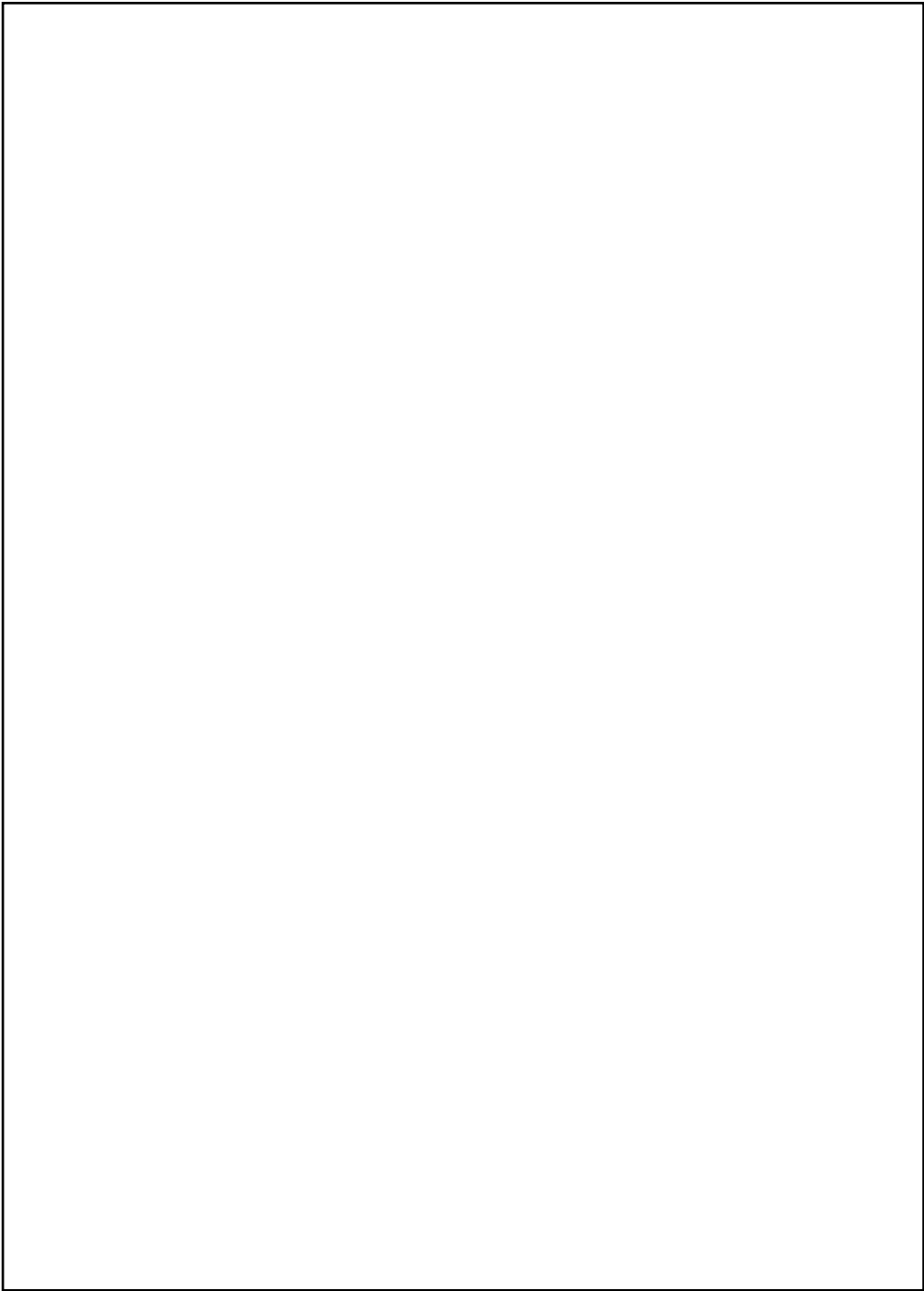
Keep your brain dump safe and revisit it.
Next time you attempt the same topic try and complete the same amount of information in a shorter period of time or add more information.

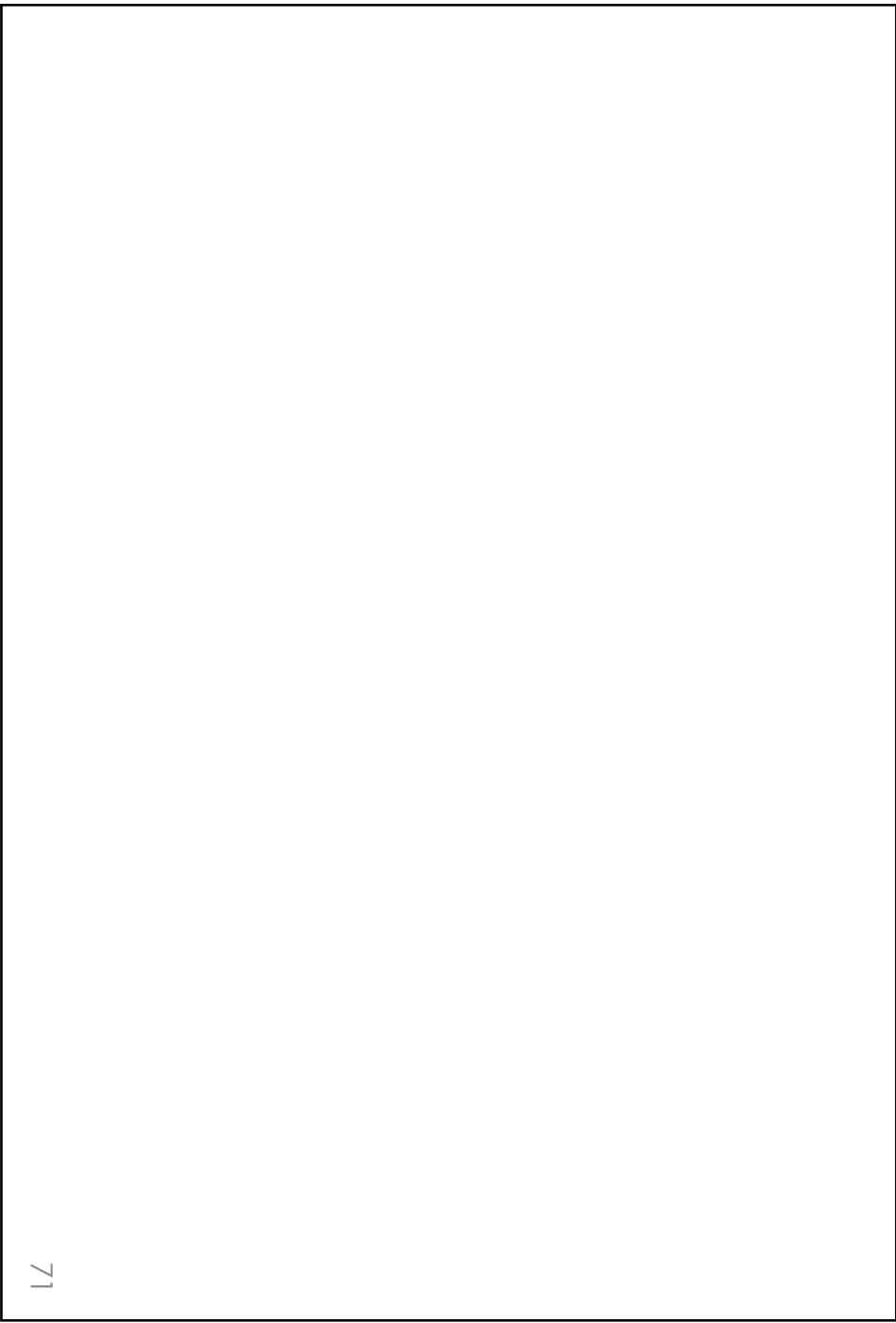
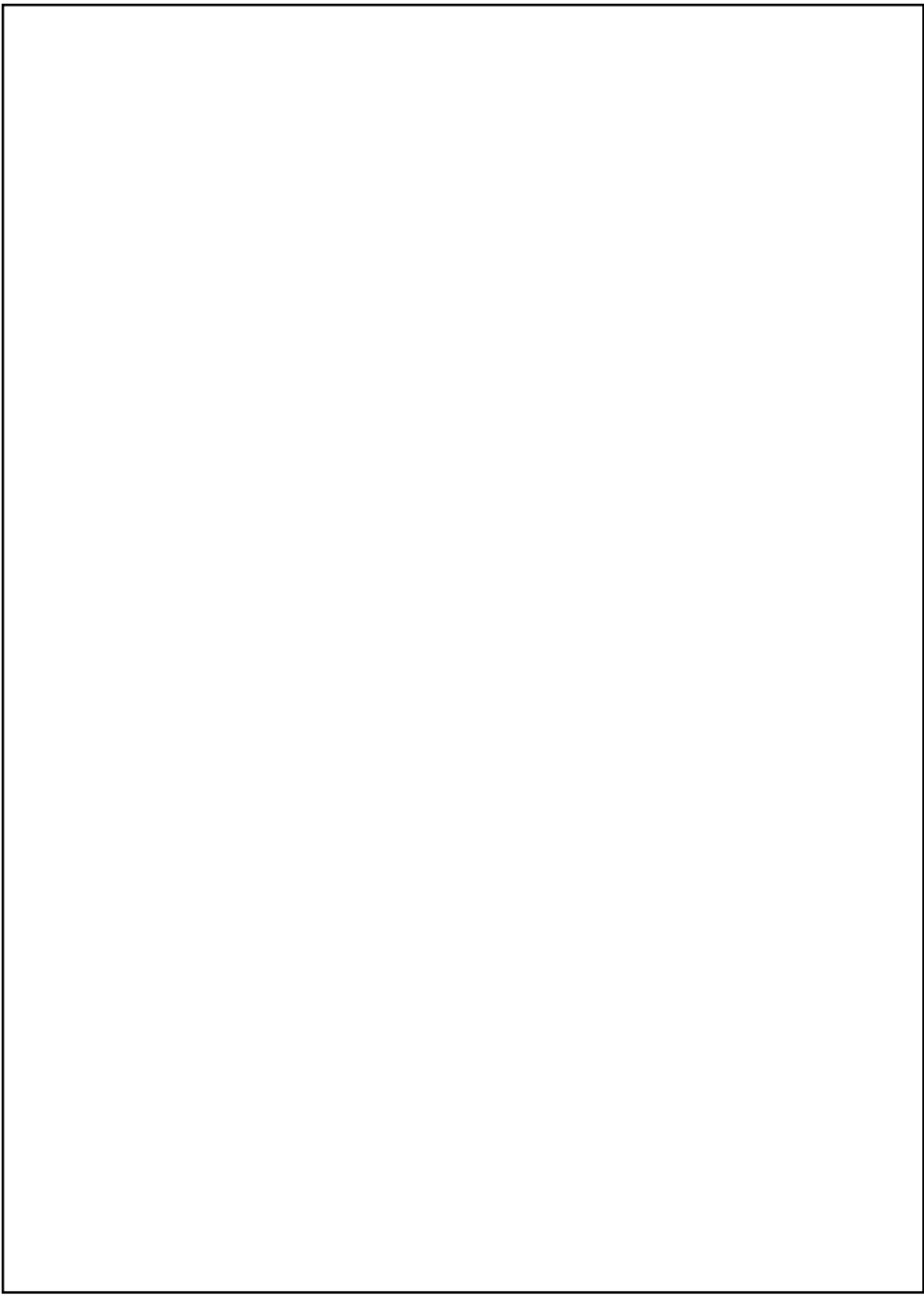
Brain dumps are a way of getting information out of your brain.

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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Day 5		Day 5	







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 KS4 students for their independent learning are as follows:

- **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

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