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## Improving The Way You Learn



**Enhanced Learning  
Educational Services**  
*"the study skills specialist"*

*Presenter: Dr Prue Salter*

### Purpose of tonight:

To assess the effectiveness of the way you study and look at some new approaches you could try (and complete a check-up on the organisational and time management skills from the previous evening).



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## How are you tracking?

- Year 7 is about settling into high school.
- *Year 8 and 9 are the consolidation years, when you get organised, learn how to study properly and get systems and structures in place: ALL of these things are part of the process of 'studying'.*
- Year 10 the focus is on preparing for senior studies.

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## Part 1: Review of Key Principles from the first evening (videos) + some new techniques for time management & organisation.



*Part 2: Improving the way you learn and study*

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# Organising your learning space and resources

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**What is good or bad about your space at home?**

**STORAGE:** Where will you keep past tests, assignments, books for your subject? Do you need shelves or bookcases?

Where will you keep material you don't need to take to school the next day?

Where will you keep assignments you are working on?

Do you have a supportive chair?

A desk lamp?

A noticeboard?

You don't have to have a fish.....

What about your laptop?

More on digital organisation in the next section.

Viewing Distance 46-61cm

Viewing Angle

Wrist Strain

Lumbar Support for Lower Back

Seat Back Angle 90°

Knee Angle

Adjustable Seat Height

56-71cm

Feet on Floor Footrest for Shorter people

**Is your space set up 'ergonomically' – i.e. in a way that supports your body and reduces back, neck, eye strain?**

DO YOU HAVE A SUPPORTIVE AND ADJUSTABLE CHAIR?  
CONSIDER AN EXTERNAL KEYBOARD FOR LAPTOPS so you can put the screen up higher?

**Lounge/dining room or bedroom?**  
Work in whatever space you are most productive.

**Want to work on your bed?** OK as long as:

- You don't lie down the same way you lie when you sleep
- You are not getting any body pain or eye strain.

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## Managing the Paper

- Where possible, paste sheets etc in immediately.
- Have a folder/file to keep pages in at school that day and when you get home sort them out straight away.
- Have folders/files at home for the sheets, tests, assignments that won't fit in your book or that you are finished with.



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**IN EACH SUBJECT FOLDER:**

1. Copy of syllabus.
2. Study notes for that subject
3. Stuff from your classnotes that will be worth looking at again
4. Things you can use to practise from
5. Things you should not need to look at again

**1 folder at school with dividers in it for each subject (or exercise books if in early years of high school)**

**move topics to folders at home when finished:**

**shelf at home with folder (or file) for each subject**

**do study notes for that topic**

**display folders for summaries**

**Put in display folders just before exams**

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### Do you manage your computer filing well? Are you saving in the cloud eg One Drive / Google Drive?

Folder for each subject:

Within each subject, topic folders:

Within each topic, break it down to the type of resource for that topic:

Then think carefully about file names and make sure they are descriptive:

- maths.doc
- worksheet.doc
- calculus stuff.doc
- calculus homework.doc
- calculus\_area\_curves.doc
- calculus\_area\_curves\_010610.doc

Back-up in cloud like Google Docs, Dropbox, OneDrive or back up at least once a week on USB/hard drive.

**On Google Drive you can colour code folders**

- Biology
- History
- Literature
- Math
- Spanish

*Colour code books, folders and texts to match.*

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Make sure you back-up your study notes regularly.

If you handwrite them either make photocopies or scan or at least take photos of the pages with your phone so if you lose them at least everything is not lost!

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**Having scheduled times for schoolwork (and including some independent learning)**

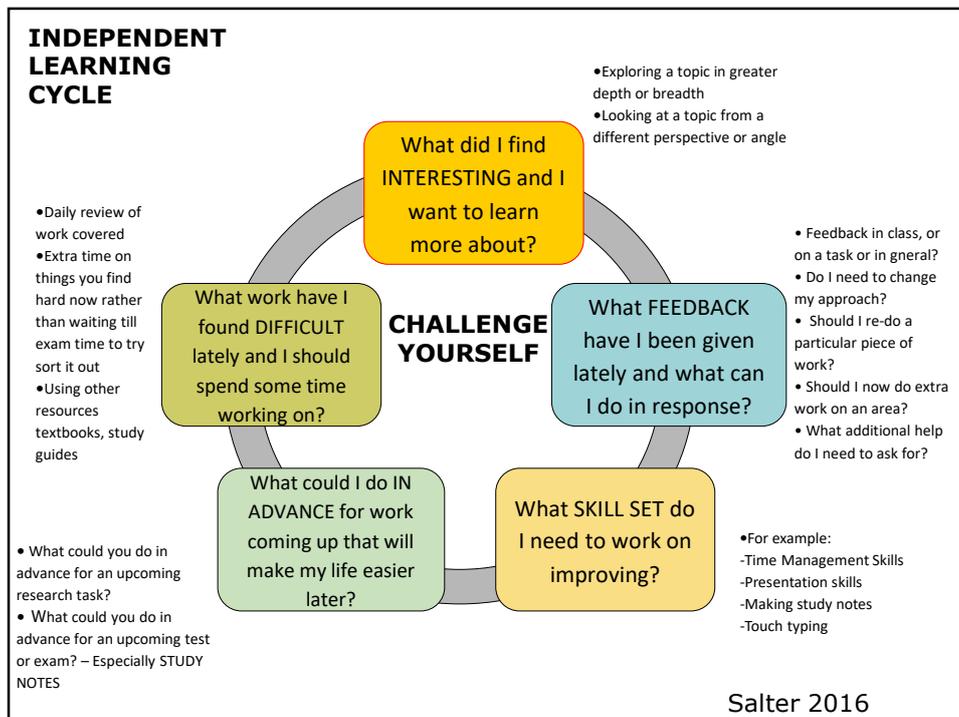
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## 'Independent Learning' in High School

In High School there are two types of work:

COMPULSORY WORK	INDEPENDENT LEARNING
<p><i>These are the things that your teacher specifically tells you to do:</i></p> <ul style="list-style-type: none"> <li>- Homework</li> <li>- Assignments</li> <li>- Preparing for tests</li> </ul> <p>Note: If you have a huge amount of homework for a subject and it will take more than 20 minutes for just that subject, complete 20 minutes of work then have your parents write a note in your diary to your teacher telling them you did 20 minutes on that subject. Your teacher needs to know if the work they</p>	<p><i>These are the additional things you do, if you have no other schoolwork to do that night, to improve your understanding of your subjects. For example:</i></p> <ul style="list-style-type: none"> <li>- Reading</li> <li>- Reviewing what you have been learning at school that week</li> <li>- Extra practise on questions you find hard</li> <li>- Research on an area you are interested in learning more about</li> <li>- Making a mind map about what you have been learning</li> <li>- Making study notes on a topic</li> <li>- Improving your touch typing skills</li> <li>- Reading ahead in your textbook</li> </ul>

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## Manage your time on a daily basis

*Pick or highlight work to complete*

Monday

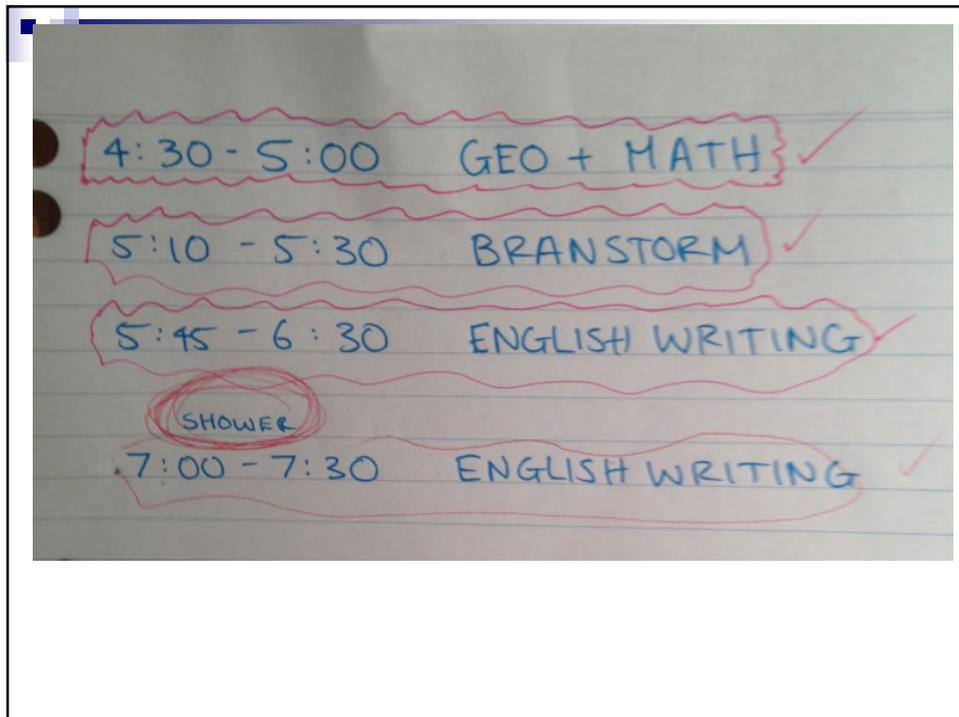
- ✓ Science h/w pg 62-73 **2.** 5:30-6
- ✓ Ex 5F On 2-7 Maths **1.** 4:30-5:30
- English assignment do Part 1 tonight!
- ✓ Study for French test Wed. **3.** 7-7:30

Tuesday

- Study for French test **1.** 4:30-5:30
- Ex 5G On 1-5 for Maths **2.** 5:30-6:00
- English assignment Part 1 **3.** 7:00-7:30

cross out work not done & transfer
allocate time before you get home

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Eg:

- 4.00-4.30 relax
- 4.30-5.00 school work (0.5hr)
- 5.00-6.30 free time
- 6.30-7.00 school work (0.5hr)
- 7.00-8.00 dinner and TV
- 8.00-8.30 school work (0.5 hr)
- 8.30 on - free time!

**My Evening Routine**

eat dinner	have a bath	brush teeth
floss teeth	get pajamas on	read stories
have a drink	go to the bathroom	go to bed

- 1.5 hour school / 4 hours free time
- KEY: is not WASTING time!

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Week B	Mon	Tue	Wed	Thu	Fri
Before school				7.15am Drama	
Lessons	PE		PE		
LUNCH		Choir		Dance	
Lesson					
After school 1	Dance 3.30-4.30	Water Polo 3.30-4.30			Singing 3.30-4.30
After school 2			Swim Squad 5.00 - 6.30pm	Swim Squad 5.00 - 6.00pm	
After school 3				Hip Hop 6.30 - 7.30pm	

Week A	Mon	Tue	Wed	Thu	Fri
Before school				7.15am Drama	
Lessons					PE
LUNCH		Choir		Dance	
Lesson					
After school 1	Dance 3.30-4.30	Water Polo 3.30-4.30			Singing 3.30-4.30
After school 2			Swim Squad 5.00 - 6.30pm	Swim Squad 5.00 - 6.00pm	
After school 3				Hip Hop 6.30 - 7.30pm	

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	Monday	Tuesday	Wednesday	Thursday	Friday		Saturday	Sunday
3-3.30	Travel	Travel	Travel	Travel	Travel	8-9	Swimming Training	
3.30-4	Netball			Swimming Training	Fav TV show	9-10	Swimming Training	
4-4.30	Netball			Swimming Training		10-11	Swimming Training	
4.30-5	Netball		Music Lesson	Swimming Training		11-12	Swimming Training	
5-5.30	Netball		MusivcLesson	Swimming Training		12-1		
5.30-6	Netball		Fav TV show			1-2		
6-6.30						2-3		
6.30-7	Dinner	Dinner	Dinner	Dinner	Dinner	3-4		
7-7.30	Fav TV show				Fav TV show	4-5		
7.30-8						5-6		
8-8.30						6-7	Dinner	
8.30-9						7-8		

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How can you achieve balance? How many activities do you have? Write in everything you do then slot your hours for the week for schoolwork/homework etc.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
3-3.30	School	School	School	School	School	8-9 sport	Sleep in
3.30-4	bus	bus	coaching	Gym	cadets	9-10 sport	work
4-4.30	break	break	coaching	Gym	cadets	10-11 sport	work
4.30-5	work	work	coaching	Gym	cadets	11-12 work	break
5-5.30	work	work	work	break	cadets	12-1 break	break
5.30-6	break	break	break	work	break	1-2 break	work
6-6.30	work	work	work	work	break	2-3 work	break
6.30-7	dinner	dinner	dinner	dinner	break	3-4 break	work
7-7.30	dinner	dinner	dinner	dinner	break	4-5 break	gym
7.30-8	work	work	work	work	break	5-6 break	break
8-8.30	work	work	break	break	break	6-7 dinner	dinner
8.30-9	break	break	work	work	break	7-8 break	break
9-9.30	break	break	work	work	break	8-9 break	break
9.30-10	break	break	break	break	break	9-10 break	break
10-10.30	sleep	sleep	sleep	sleep	break	10-11 sleep	sleep

www.enhanced-learning.net



Enhanced Learning Educational Services  
"the study skills specialists"

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## Over-committed?

- No down time for you. No sitting around watching TV. It is the trade-off for doing your activity.
- The nights you have free do extra work those nights.
- You may have to get up half an hour early to do work before school.
- You may have to go to the library some lunch times to stay on top of things.
- One day on the weekend will be catch-up time, doing things like assessments and study notes.
- Use any 'pockets of time'. If you are waiting for training to start in 20 mins, do 20 mins of work or reading.
- Record your notes so you can listen to them when you are travelling.

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## Why Reading Outside of School is so Important!

The following table summarizes the results of a study tracking the number of minutes fifth-grade students spent reading outside of school. Based on mathematical probabilities, the total number of minutes was correlated to the total number of words likely read by the students during the school year.

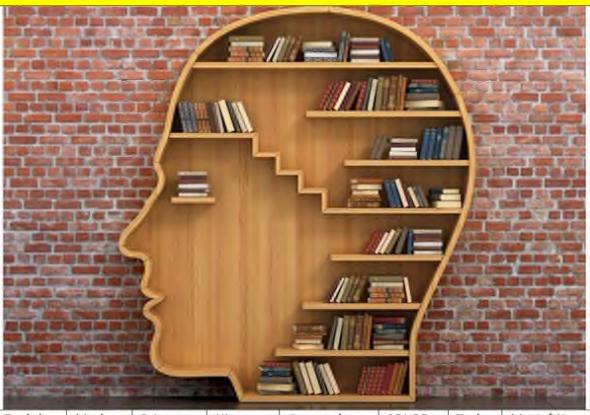
Minutes students spend reading books per day	How many words read per year	Percentile
65	4,358,000	98
21.1	1,823,000	90
9.6	622,000	70
4.6	282,000	50
1.8	106,000	30
.7	21,000	20

Anderson, Wilson & Fielding (1988) www.blog.maketoteach.com

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# LITERACY

**LITERACY: The foundation for success in EVERY subject.**



- Read a novel
- Read a magazine
- Read a textbook
- Read anything
  
- Start a vocab book for new words and useful words
  
- Write about what you read
- Create a mind map about what you have read
- Make a table about what you have read
- Explain to someone what you have read
  
- Write your own pieces: stories, journals, reports

English
Maths
Science
History
Geography
PDHPE
Tech
Music/VA

## READ – VOCAB – COMPREHEND - WRITE

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**Managing your distractions at home so you can learn in a focused way.**

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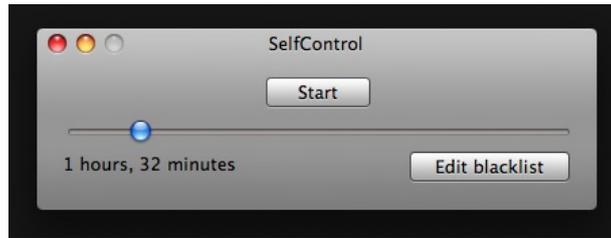
## Managing Technology

- Keep schoolwork times and personal times separate.
- No phones in bedroom overnight.
- Ideally, phone off or another room when working - use blocking tools on laptop – parental controls and self managed tools.

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MAC:

“SelfControl”



PC & MAC:

“Cold Turkey”



*Their tagline is "Like your parents...on steroids!"*

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## If not, there are lots of options....

- Family Zone 
- Set up Apple Screen Time which enables parents to set a bedtime and limits for various ap
- McAfee Safe Family
- Wireless routers Eg Kids blocker, Koala Safe, Circle 
- Our Pact App, mobile phones management 
- Google Family Link App  Parental control for your kids
- Vodafone Kids, Optus Pause
- inchargebox – lock away devices and charge at the same time 

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## MUSIC

- While organizing?
- While doing homework?
- While studying?



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## MUSIC

**EASY WORK:** whatever you want to listen to, doesn't matter so much.

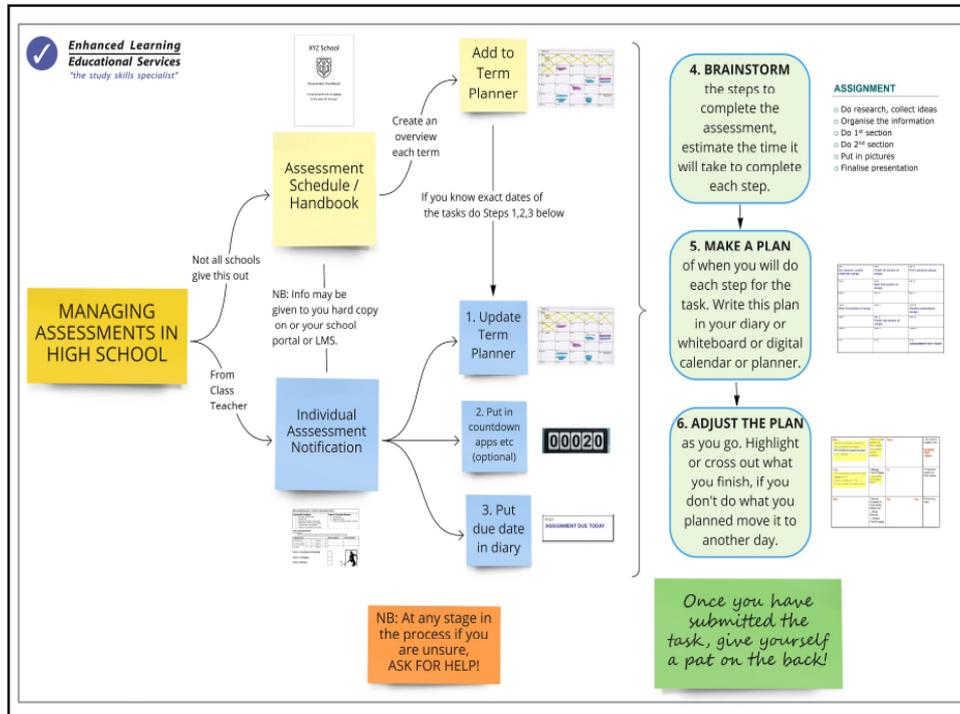
**ANYTHING THAT REQUIRES EFFORT, CONCENTRATION, THINKING, REMEMBERING:**

**Either NO music or Classical music softly in background to enhance learning: Mozart, Baroque**

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# Managing your workload and planning for your assessments.

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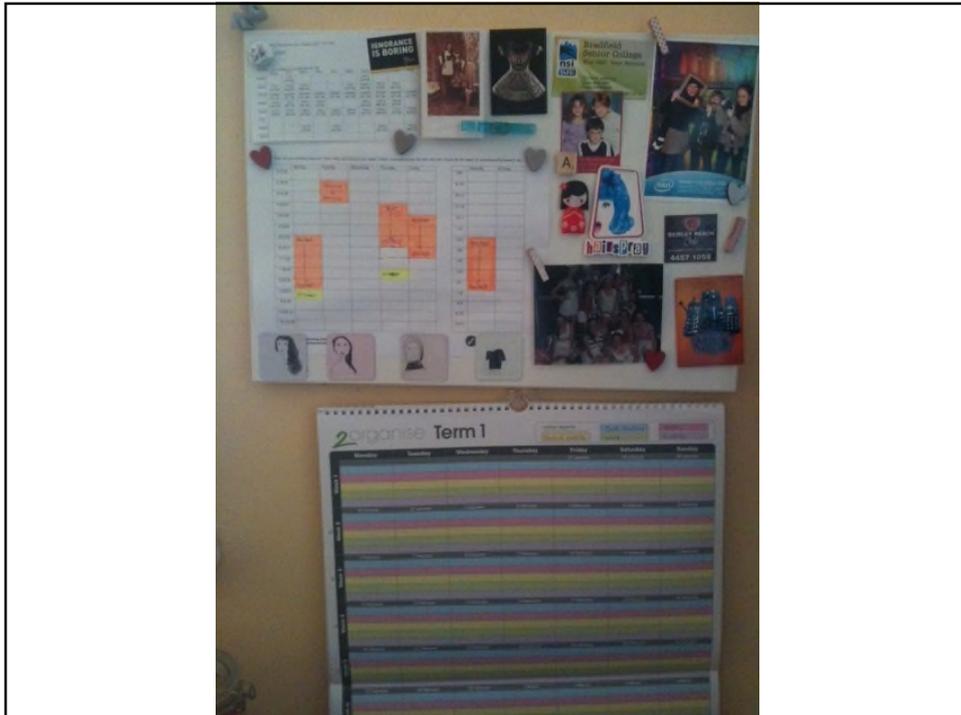


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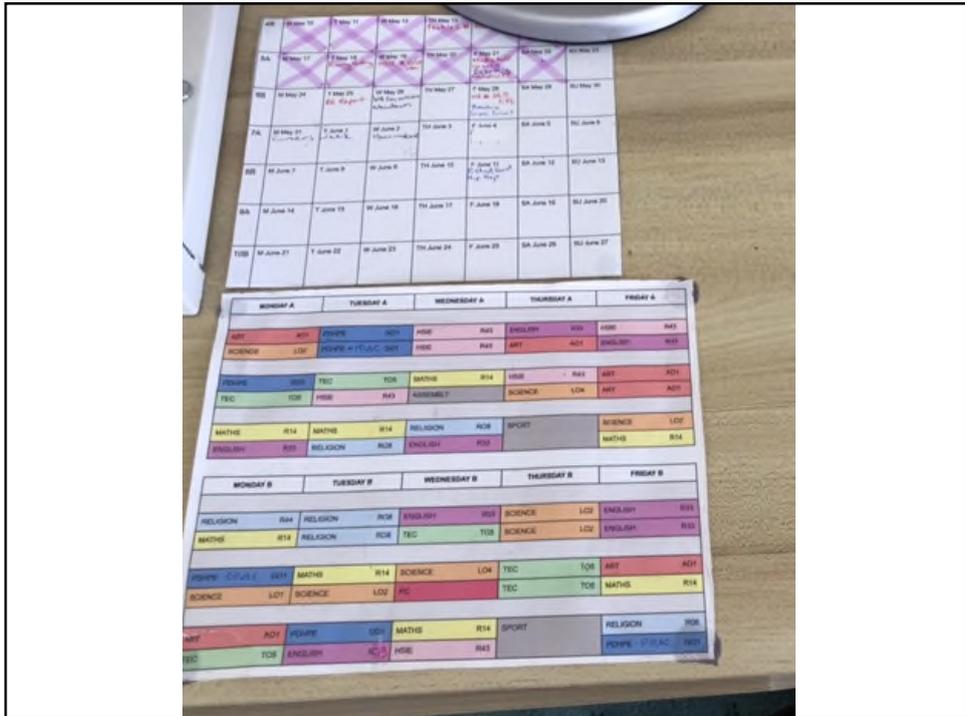
Term 3					
1	M 18 <del>Staff Day</del>	T 19	W 20	T 21	F 22
2	M 25	T 26 French class test	W 27	T 28	F 29
3	M 1 August	T 2	W 3	T 4 Maths Comp FD Maths Assign due	F 5 Maths Topic Test Gregg Assign Due
4	M 8	T 9	W 10 Science Topic Test	T 11	F 12
5	M 15	T 16 English Paper Due DoI Assign Due	W 17	T 18 History Assign Due	F 19 Father/Daughter Breakfast
6	M 22	T 23	W 24	T 25	F 26
7	M 29	T 30	W 31	T 1 September	F 2
8	M 5	T 6	W 7	T 8	F 9

Father's Day

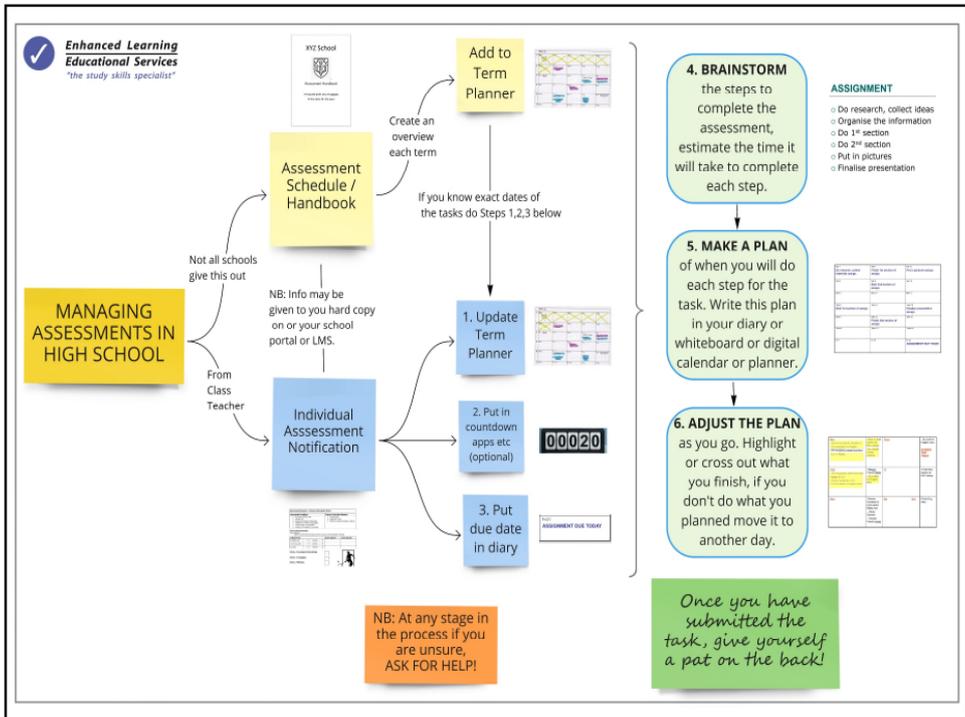
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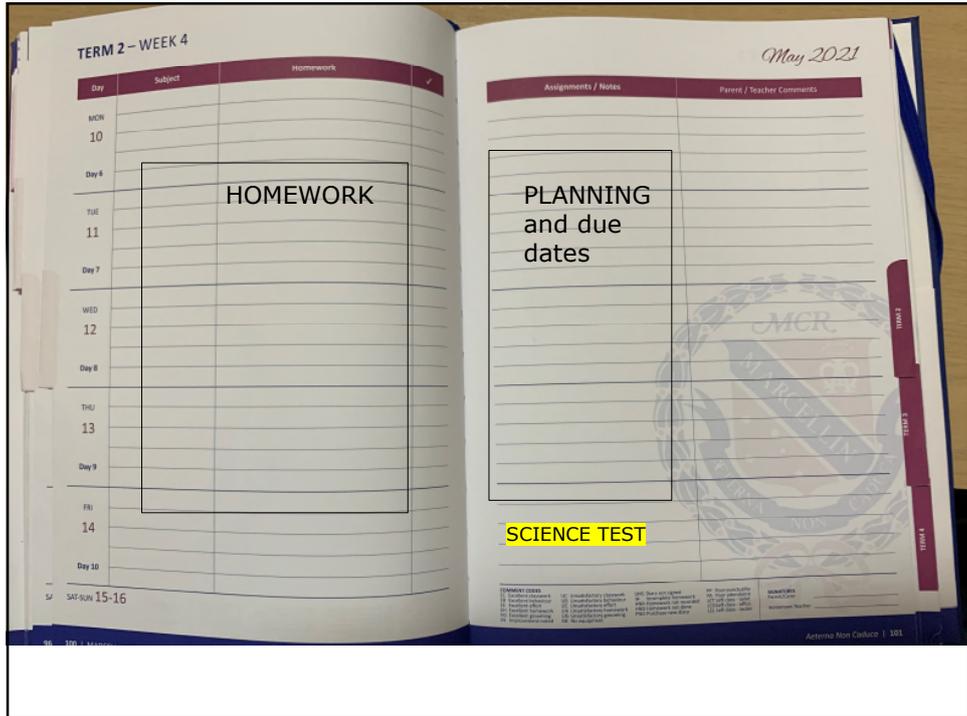
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Then when you get the details about the task (assessment notification):

- **Brainstorm the steps** to be done and write into your homework diary/planner **when you plan to DO** the work for the test or assignment, not just when it is **DUE!**

*But what's the difference ??????*

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Sat 1 <b>Do research, collect materials assignment</b>	Sat 8 <b>Finish first section of assign</b> <b>Do revision sheets</b>	Sat 15 <b>Put in pictures assignment</b>
Sun 2 <b>Finish Maths chapter</b>	Sun 9 <b>Start second section of assignment</b>	Sun 16
Mon 3 <b>Make study notes</b>	Mon 10 <b>Do more practise questions and review formulas</b>	Mon 17
Tues 4 <b>Start first section of assignment</b>	Tues 11 <b><u>MATHS TEST TODAY</u></b>	Tues 18 <b>Finalise presentation assignment</b>
Wed 5 <b>Do chapter reviews</b>	Wed 12 <b>Finish second section of assignment</b>	Wed 19
Thurs 6 <b>Work on difficult sections</b>	Thurs 13	Thurs 20
Fri 7 <b>Review formulas and rules</b>	Fri 14	Fri 21 <b><u>ASSIGNMENT DUE TODAY</u></b>

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<u>Mon</u>	-Work on first section of Hist. assign. -Do chapter review science	<u>Thurs</u>	-Do draft for English story  <b>SCIENCE TEST TODAY</b>
<u>Tues</u>	- Review French vocab - Do outline for English story	<u>Fri</u>	-Finish first section of Hist. assign.
<u>Wed</u>	- Review formulas for next weeks Maths test - Study Science	<u>Sat</u> <u>Sun</u>	Finish Eng. story

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<u>Mon</u> - Science questions Chapter 3 - Do paragraph for English - Do Geography sheet due Wed - Ex 2.3 Maths	-Work on first section of Hist. assign. -Do chapter review science	<u>Thurs</u>	-Do draft for English story  <b>-SCIENCE TEST TODAY</b>
<u>Tues</u>	- Review French vocab - Do outline for English story	<u>Fri</u>	-Finish first section of Hist. assign.
<u>Wed</u>	-Review formulas for next weeks Maths test -- Study Science	<u>Sat</u>	<u>Sun</u> Finish Eng. story

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**HIGHLIGHT THE LEARNING TASKS YOU COMPLETE EACH DAY**

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<u>Mon</u> - Science questions Chapter 3 - Do paragraph for English - Do Geography sheet due Wed - Ex 2.3 Maths	-Work on first section of Hist. assign. -Do chapter review science	<u>Thurs</u>	-Do draft for English story  <b>-SCIENCE TEST TODAY</b>
<u>Tues</u>	- Review French vocab - Do outline for English story	<u>Fri</u>	-Finish first section of Hist. assign.
<u>Wed</u>	-Review formulas for next weeks Maths test -- Study Science	<u>Sat</u>	<u>Sun</u> Finish Eng. story

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AT THE END OF THE WEEK CROSS OUT THE LEARNING TASKS YOU DIDN'T FINISH AND RESCHEDULE TO NEXT WEEK

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**AT THE END OF THE WEEK, CROSS OUT ANY WORK NOT HIGHLIGHTED AND WRITE IT IN AS TASKS FOR NEXT WEEK**

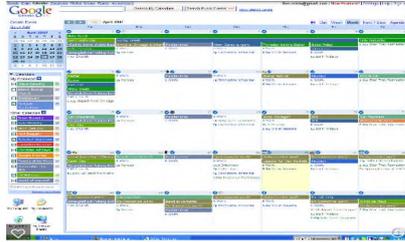
<p><u>Mon</u></p> <ul style="list-style-type: none"> <li>- Science questions Chapter 3</li> <li>- Do paragraph for English</li> <li>- Do Geography sheet due Wed</li> <li>- Ex 2.3 Maths</li> </ul>	<p>-Work on first section of Hist. assign.</p> <p>-Do chapter review science</p>	<p><u>Thurs</u></p> <ul style="list-style-type: none"> <li>- Exercises Latin</li> <li>- Finish Maths exercise</li> <li>- Write poem report english</li> </ul>	<p>- Do draft for English story</p> <p><b>SCIENCE TEST TODAY</b></p>
<p><u>Tues</u></p> <ul style="list-style-type: none"> <li>- Do Geography sheet due Wed</li> <li>- Maths Ex 2.4</li> <li>- History questions 1-10</li> <li>- Finish chapter 3 English novel</li> </ul>	<ul style="list-style-type: none"> <li>- Review French vocab</li> <li>- Do outline for English story</li> </ul>	<p><u>Fri</u></p> <ul style="list-style-type: none"> <li>- History notes</li> <li>- Maths Exercise 2.1</li> <li>- French exercise</li> <li>- <del>Design sketch</del></li> </ul>	<p>-Finish first section of Hist. assign.</p>
<p><u>Wed</u></p> <ul style="list-style-type: none"> <li>- Finish Maths homework</li> <li>- Do Science lab results</li> <li>- Write up Geog report</li> </ul>	<ul style="list-style-type: none"> <li>-Review formulas for next weeks Maths test</li> <li>-- Study Science</li> <li>--Review French vocab</li> </ul>	<p><u>Sat</u></p> <p><u>Sun</u></p>	<p>Finish Eng. story</p>

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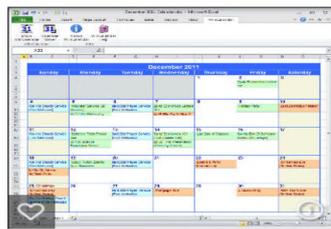
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### Google Calendars



*If you use these it is also a good idea to print it out and put it on your wall so you can see what is coming up.*

### Outlook Calendars



Big Day Countdown  
The Special Day

*You may also like to use countdown apps. Having multiple reminders is a good thing!*

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### *Planning week by week.*

1. On Sunday night, list all of your assessments and when they are due (it is a good idea to already have these listed in order of due date on a whiteboard).
2. Estimate how much time you still need to spend on each assessment.
3. Decide your priorities for the week, what do you think it is most important to get done this week? What do you want to do on each task?
4. Schedule the planned work into your diary as homework tasks for the week or incorporate into your planning each afternoon.

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<b>TASK</b>	<b>DATE DUE</b>
Science Test	3 <sup>rd</sup> May
Maths Assign	7 <sup>th</sup> May
History Project	11 <sup>th</sup> May
English Report	15 <sup>th</sup> May
French Test	18 <sup>th</sup> May

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<b>THIS WEEK:</b>		
Science Test	3/5	Finish notes, do end chp test
Maths Assign	7/5	Make flashcards for formulas
History Project	11/5	Do at least an hr of research
English Report	16/5	Brainstorm ideas for 1 <sup>st</sup> draft
French Test	18/5	None

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## THIS WEEK:

Science Test	3/5	Finish notes, do end chp test	MON
Maths Assign	7/5	Make flashcards for formulas	TUES
History Project	11/5	Do at least an hr of research	WED
English Report	16/5	Brainstorm ideas for 1 <sup>st</sup> draft	THURS
French Test	18/5	None	

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## THIS WEEK:

Science Test	3/5	Finish notes, do end chp test	MON
Maths Assign	7/5	Make flashcards for formulas	TUES
History Project	11/5	Do at least an hr of research	WED
English Report	16/5	Brainstorm ideas for 1 <sup>st</sup> draft	THURS
French Test	18/5	Practice speaking skills	FRI
Geog Assess	22/5	Do section 1	TUES

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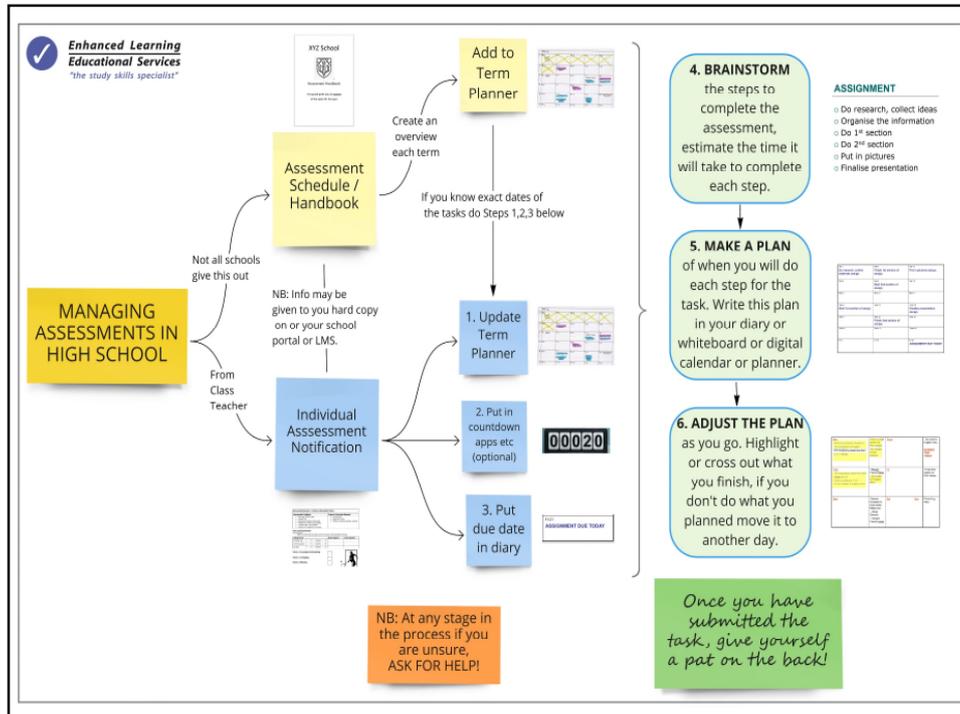
## THIS WEEK:

Science Test	3/5	Finish notes, do end chp test	MON
Maths Assign	7/5	Make flashcards for formulas	TUES
History Project	11/5	Do at least an hr of research	WED
English Report	16/5	Brainstorm ideas for 1 <sup>st</sup> draft	THURS
French Test	18/5	Practice speaking skills	FRI
Geog Assess	22/5	Do section 1	TUES

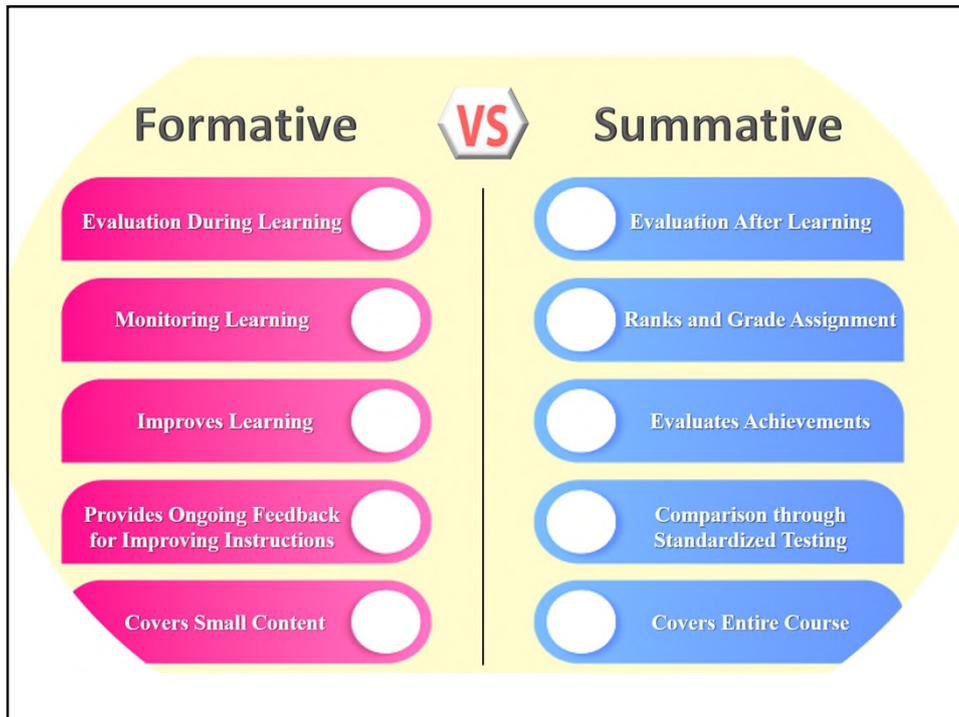
At the end of the week, reassess and decide what you should work on over the weekend.



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# Preparing for Tests

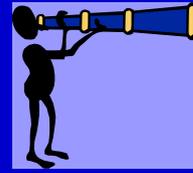
*Both formative and summative tasks*

## 4 Simple Steps

(Page 3)

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## STEP 1 : Fact Finding



- What **topics** are being tested?
- How **long** is the test?
- What **format** is the test?
- What are my **strengths and weaknesses**?
- How do I **learn best**?

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## Step 2: Get Organised

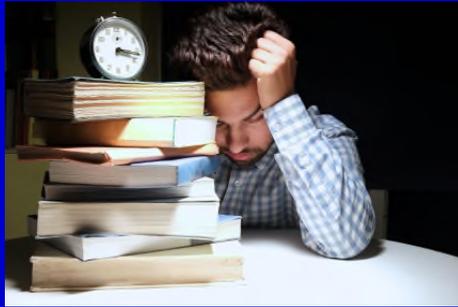
- Chase up **anything missing**
- **Organise your notes**
- **Prepare summaries**



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## Step 3 : Manage Time

- What **needs to be done** to get ready for each test?
- **When** are you going to do it?



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Example:

M	T	W	T	F	S	S
English	Science	Geog.	DT	Maths	Science	Geog.
Maths	History	French	English		History	French
						DT

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## Step 4 : Now Study!

▣ Study = LEARN + PRACTISE



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*The more organised the  
information is,  
the easier it will be to  
learn and remember it!*

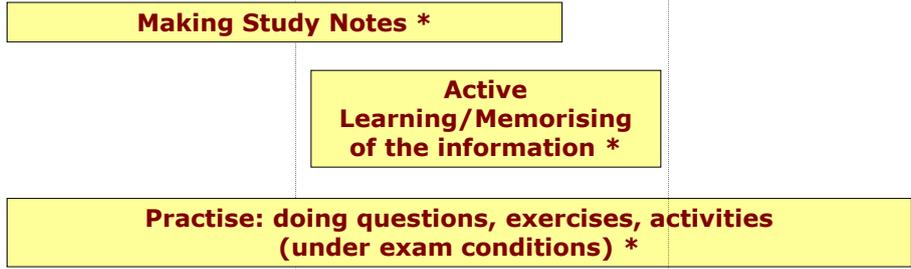
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## The Learning Process

***Initial stages*** to turn new learning into understanding:

- Complete work set in class
- Think about class work and ask questions if unsure
- Do extra work on things you find tricky

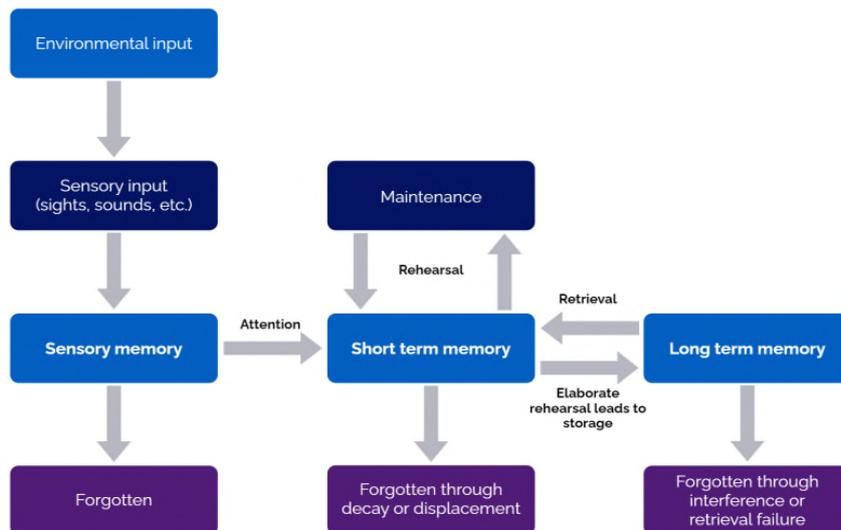
**UNDERSTANDING                      REMEMBERING                      APPLYING**



\* Chase up any problems by: asking questions, doing extra work

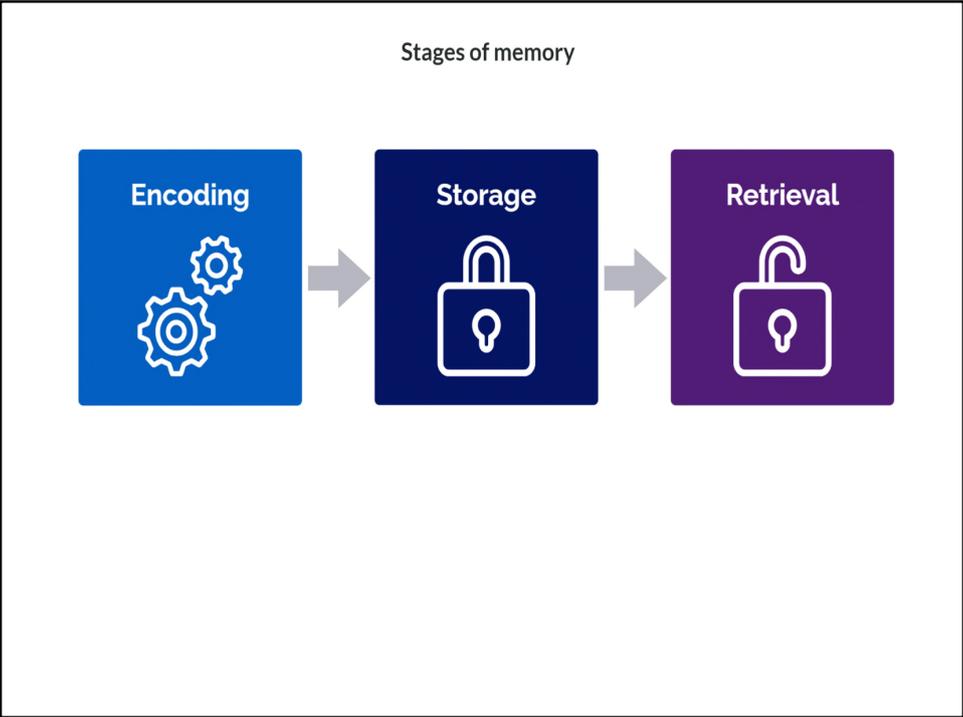
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### Atkinson-Shiffrin model



Adapted from: Atkinson, R. C., & Shiffrin, R. M. (1968)

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**STUDYING = PLAYING SPORTS**

????????????????????????????????

The slide features the title 'STUDYING = PLAYING SPORTS' at the top. Below the title are three images: a soccer player in a purple jersey kicking a ball, a basketball player in a red jersey jumping for a shot, and a target with an arrow hitting the bullseye. At the bottom of the slide is a long string of question marks.

68



- you learn how to do it or what it is all about
- you then practise the skills needed for that subject
- the more you practise the better you get
- you need to do it on a regular basis
- some have natural ability, some have to work harder
- anyone can do it if they put the effort in
- it is never too late to start!

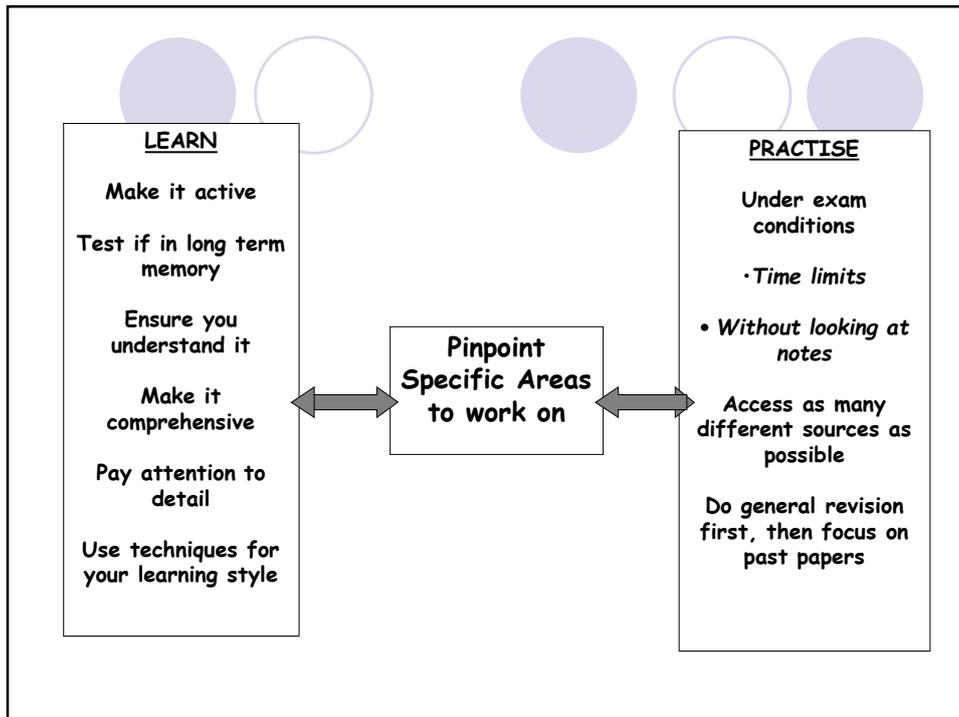
69

### 3 Steps to Studying:

1. Make study notes (do this as early as possible).
2. Learn the notes (don't just read them, test yourself on them).
3. Do lots of practice questions.



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## 1. Flash Cards

On one side of an index card write the key word and the other side definitions or formulas.

Helpful with vocab for languages, definitions, history dates, Maths formulas, characters in novels

72

## Flash cards

FRONT

BACK

CELL

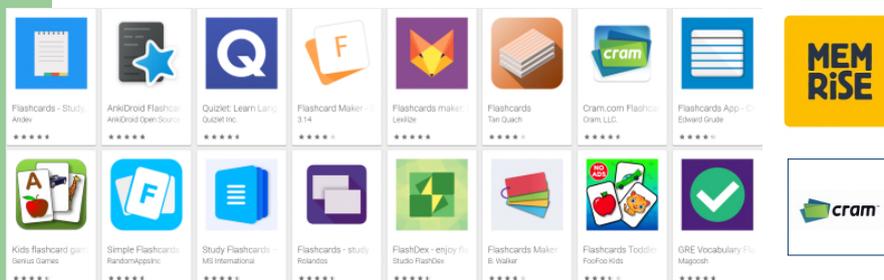
A unit of structure and function of an organism.

ARTERY

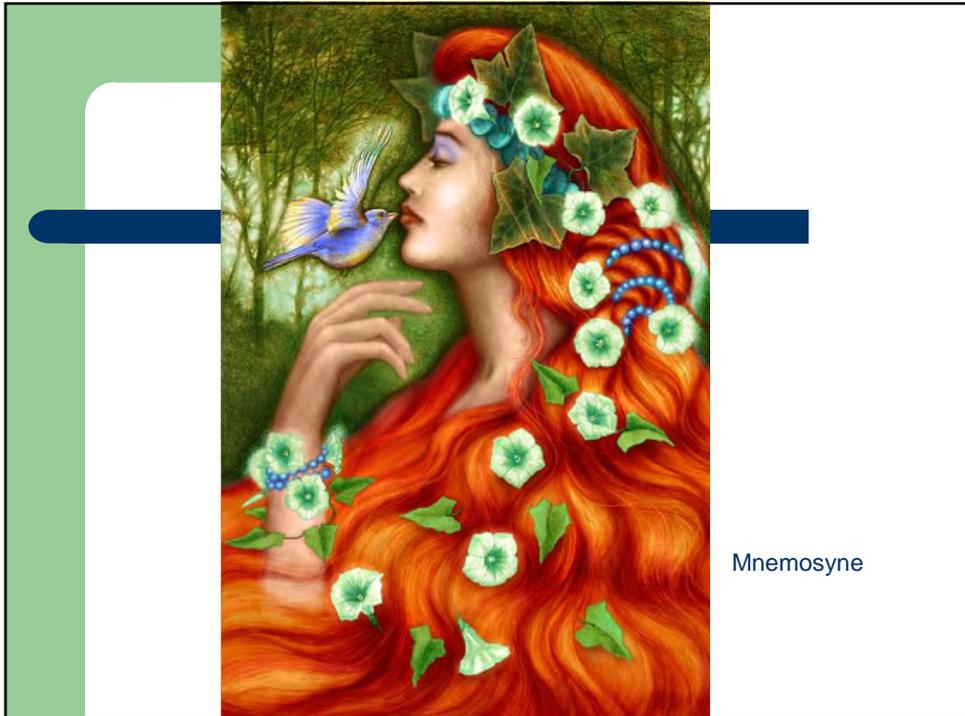
A large muscular vessel that carries blood away from the heart.

73

## What's your favourite flashcard app?



74



Mnemosyne

75

## 2. Mnemonics: Egyptian Gods

- |           |                   |
|-----------|-------------------|
| • Anubis  | <b>AHKHSISS</b>   |
| • Horus   |                   |
| • Khepri  | <b>HAS KISS H</b> |
| • Hathor  |                   |
| • Sakhmet | <b>HAS SKIS H</b> |
| • Ihy     | <b>SS HH SAKI</b> |
| • Seth    |                   |
| • Sobek   |                   |

76



### 3. LOCATING INFORMATION

- When you want to locate information in your brain, **moving your eyes** to particular locations can actually stimulate memory.



77

### *Some questions to try:*

- What is your first memory of school?
- What was your best friend's name when you were 5 years old?
- What can you recall about something you studied in Year 3?
- What is your happiest memory?

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## Get parents to test you or help you understand



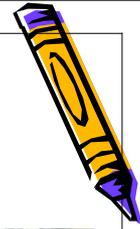
79

## Working Together....

- Your parents can test you – write a list of questions as you are studying.
- They can also suggest new ways for you to study and learn!
- Try the TOP 10 study techniques challenge with a friend!

80

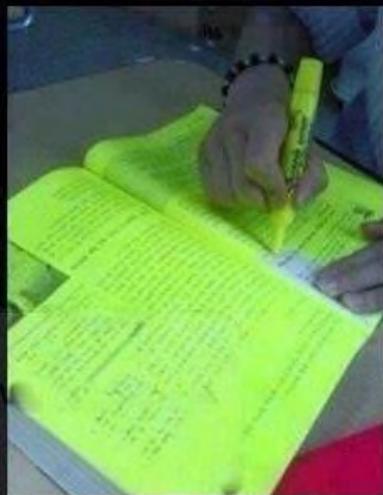
*Making and using study notes is one of the best ways to start your study for a test or exam*



81



expectation



Reality

82

- 
- What are study notes?
  - Why do we do them?
  - How are do these differ from other revision?
  - When should you do notes?
  - What are some different styles of note-making?
  - What do you use as the source material for the summaries?
  - How can you make study notes easier to learn?
  - Should you make a 'summary of your summary'?
  - Should you handwrite or type your notes?
- 

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## WHY MAKE STUDY NOTES??



- Helps student **review** on a regular basis
  - Helps students determine if their **understanding** is complete
  - Gives them a great **time advantage** at exams
- 



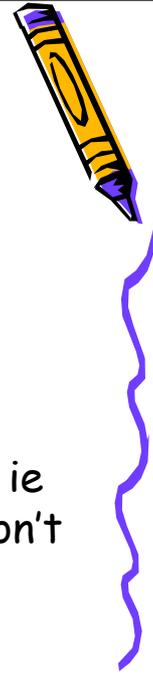
84

## When should you make study notes?

- As you go

OR

- Each time a topic is completed ie before the test or when you don't have much homework.



85

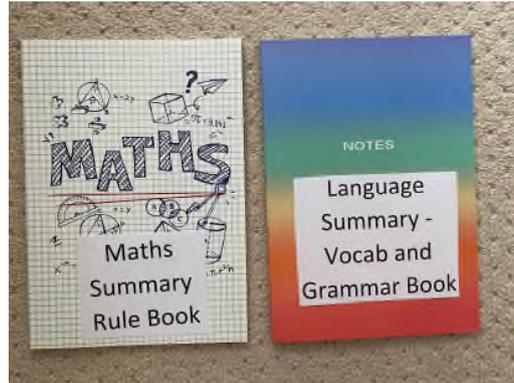
## Making Study Notes (Page 4)



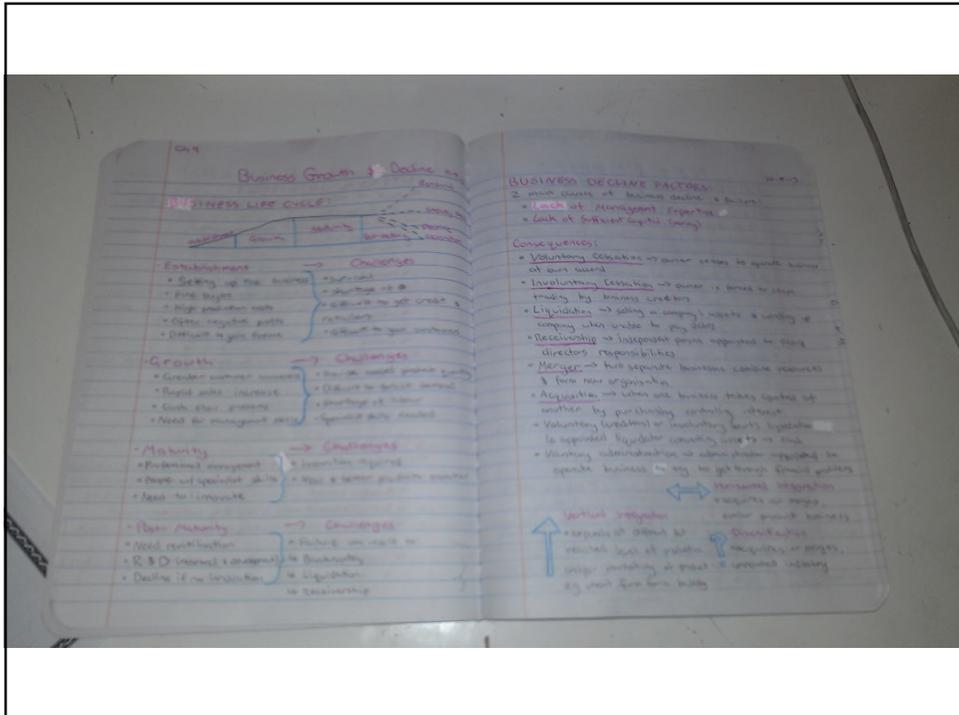
86

# Maths & Languages

- Have a summary book for each.
- Add to these daily.
- (Sometimes you may have a 'theory' book for Maths – that is your summary book!)



87



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# MATH SUMMARY

**adjacent:** next to  
eg  $\angle ADB, \angle BDC$

**acute:** less than  $90^\circ$   
**obtuse:** less than  $180^\circ$ , greater than  $90^\circ$   
**straight:**  $180^\circ$   
**right:**  $90^\circ$   
**reflex:** less than  $360^\circ$ , greater than  $180^\circ$   
**revolution:**  $360^\circ$

**Complementary angles,** add to  $90^\circ$   
**Supplementary angles,** add to  $180^\circ$

**vertically opposite**

**parallel:** lines that point in the same direction and never meet  
 $\parallel$  parallel to  $\implies$  Parallel

**perpendicular:** lines that intersect each other at a right angle ( $90^\circ$ )  
 $\perp$  perpendicular to  $\perp$  perpendicular to

**transversal:** a line that crosses two or more lines  
 Parallel  $\implies$  transversal

**corresponding:** any 2 angles in a match position

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## Area

**Rectangle** Area = length  $\times$  width  
 $A = l \times w$

**Square** Area = side squared  
 $A = s^2$

means right angle

**Trapezium** Area =  $\frac{1}{2}$   $\times$  height  $\times$  (side + side)  
 $A = \frac{1}{2} h(a+b)$

means parallel

**always draw a diagram!**

eg  $A = l \times w$   
 $A = 7 \times 2 = 14m^2$

eg  $A = s^2$   
 $A = 5 \times 5 = 25cm^2$

line up equal signs underneath each other

eg  $A = \frac{1}{2} h(a+b)$   
 $A = \frac{1}{2} \times 4 \times (5+10) = 30m^2$

Don't forget the **UNITS** ie cm, m, km  
 Don't forget for area units  $^2$

90

Zilidiz Maths Study Notes T4

### Chapter 7: Coordinate Geometry

**Distance Formula:**  $\sqrt{(x_2-x_1)^2 + (y_2-y_1)^2}$  ✓

**Midpoint Formula:**  $\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$   $m(x) + y(x)$

**Gradient of a line:**  $m = \frac{\text{rise}}{\text{run}} = \frac{y_2-y_1}{x_2-x_1}$

**Gradients of parallel lines:**  $m_1 = m_2$

**Gradients of perpendicular lines:**  $m_1 m_2 = -1$

**Gradients of lines:  $y = mx + c$  (gradient intercept form)**  
 (x, y) = (0, c) (y-intercept)  $c$  is positive or negative value  
 (e.g.  $3x - 2y = 12$ )

**Intercept Form:**  $\frac{x}{a} + \frac{y}{b} = 1$  (a is x-intercept, b is y-intercept)

**Point gradient formula:**  $m = \frac{y_2 - y_1}{x_2 - x_1}$  or  $y - y_1 = m(x - x_1)$   $(y - 3) = 2(x - 1)$

**2 point formula:** Pass 2 points  $\frac{y - y_1}{y_2 - y_1} = \frac{x - x_1}{x_2 - x_1}$

**Perpendicular distance formula between a point and a line:**  $d = \frac{|ax + by + c|}{\sqrt{a^2 + b^2}}$

Note if you need to find point of intersection solve simultaneously

---

### 2.11 -> Binomial Expansion

Formula  $\rightarrow (a + b)^n = \sum_{k=0}^n \binom{n}{k} a^{n-k} b^k$   
 $\rightarrow a^2 - 2ab + b^2 = (a-b)^2$

E.g. Factorize:  $x^2 - 9x + 16$   
 $= x^2 - 2(4)x + 4^2$   
 $= (x-4)^2$

### 2.12 -> Difference of 2 squares

A special case of binomial expansion  $(a+b)(a-b) = a^2 - b^2$

Formula  $\rightarrow a^2 - b^2 = (a+b)(a-b)$

E.g. Factorize:  $17^2 - 36$   
 $= 17^2 - 6^2$   
 $= (17+6)(17-6)$

E.g.  $(a+b)^2 - (c-d)^2$   
 $= (a+b+c-d)(a+b-c+d)$  (Always have +1 and -1)

E.g.  $(a+b)^2 - (c+d)^2$   
 $= (a+b+c+d)(a+b-c-d)$  (Always have +1 and -1)

### 2.13 -> Sum of differences of 2 cubes

Formula  $\rightarrow a^3 - b^3 = (a-b)(a^2 + ab + b^2)$

E.g.  $8x^3 - 1$   
 $= (2x)^3 - 1^3$   
 $= (2x-1)(4x^2 + 2x + 1)$  (Using Formula 1)

E.g.  $27a^3 - 4b^3$   
 $= (3a)^3 - (b)^3$   
 $= (3a-b)(9a^2 + 3ab + b^2)$  (Using Formula 2)

### 2.14 -> Mixed Techniques

Sometimes use then use method of factorizing to need to completely factorize an expression.

E.g.  $5x^2 - 15x + 10$   
 $= 5(x^2 - 3x + 2)$   $\rightarrow$  use diff factors  
 $= 5(x-1)(x-2)$   $\rightarrow$  difference of 2 squares

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# FRENCH

## GREETINGS

Bonjour	Good Morning/Afternoon
Bonsoir	Good Evening
Salut	Hello
Ça va	Hey there (formal)
À revoir	Good bye
À bientôt	See you soon
À tout à l'heure	See you in a while
À plus tard	See you later
À demain	See you tomorrow
À la semaine prochaine	See you next week
Bonne journée	Have a good day
Bonne nuit	Good night

Comment ça va	How's it going (informal)
Comment vas-tu	How are you (informal)
Comment allez-vous	How are you (formal)
Ça va	How's it going (formal)
Et toi	And you (informal)
Et vous	And you (formal)
Ça va bien	It's going well
Je vais bien, merci	I'm fine, thank you
Je vais très bien	I'm very well
Pas si bien	Not so well
Je vais comme-ci, comme-là	It's so-so
Ça va mal	Not bad
Ça va mal	Everything is going badly

## EU

Le jeu vidéo	video game
bleu	blue
deux	two
cin	five

## AU

les ciseaux	scissors
le cadeau	present/gift
le bateau	boat
l'eau	water

## OI

le poisson	fish
trois	three
la voiture	car
la poire	pear

## OU

la poule	chicken
le loup	wolf
le chou	cabbage
la poulette	bin

## ON

le pont	bridge
onze	eleven
le cochon	pig
le ballon	ball

92

**VOLITIONAL FORM:**

USE: (1) an invitation to do something together. (shall we...?) used instead of ~ましょう  
 (2) One's will/intention to do something together or alone.  
 (3) Offering a service; shall I...?

FORM: Group I verbs: う → おう  
 EX: はじめます → はじめ(あ) ⇒ はじめ(そ)う (sy) → せう(おう)  
 EX: あそびます → あそび(る) ⇒ あそび(ほ)う / 3'(BY) → ほ(おう)

Group II Verbs: る → よう  
 EX: おはなします → おはな(し)る ⇒ おはな(せ)よう  
 見ます → 見(る) → 見(よ)う

Group III verbs: irregular.  
 EX: きます → くる → こよう  
 します → する → しよう

EXAMPLES: ちょっと休まない? shall we take a rest?  
 うん.. 休もう。 Yes, lets.  
 少し休もうか。 How about resting for a while?  
 手がおうか。 shall I help you?  
 行こう 食えよう あるこう  
 休もう せしよう かおう  
 食べよう おはなせよう かんろう

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**VOCABULARY.**

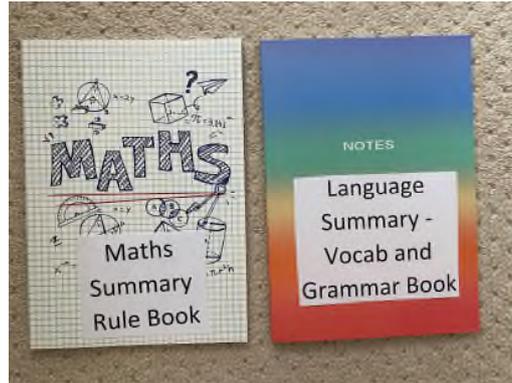
かいものをする	do the shopping.	10	가족 ka jok
飲みものをひやます	chill the drinks.	10	family
そうじをする	do the cleaning.		
いすをならべる (ならべます)	line the chairs up.		
花をかざる (かざります)	display the flowers		
りょうりをつくる	cook the meal.		
はります	to put up/post/paste		
かけます	to hang.		
うえます	to plant		
もどします	return/put~back		
かたづけます	put things in order/tidy up.		
しまします	put things in their proper place.		
ぎめます	to decide		
しらせます	to inform		
そうだんします	to consult/discuss.		
そのままにします	to leave things as they are.		
よてい	plan/schedule		
ひきだし	drawers.		

(Sample card (shown at actual size))

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## Maths & Languages

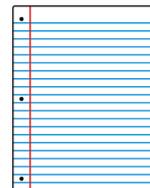
- Have a summary book for each.
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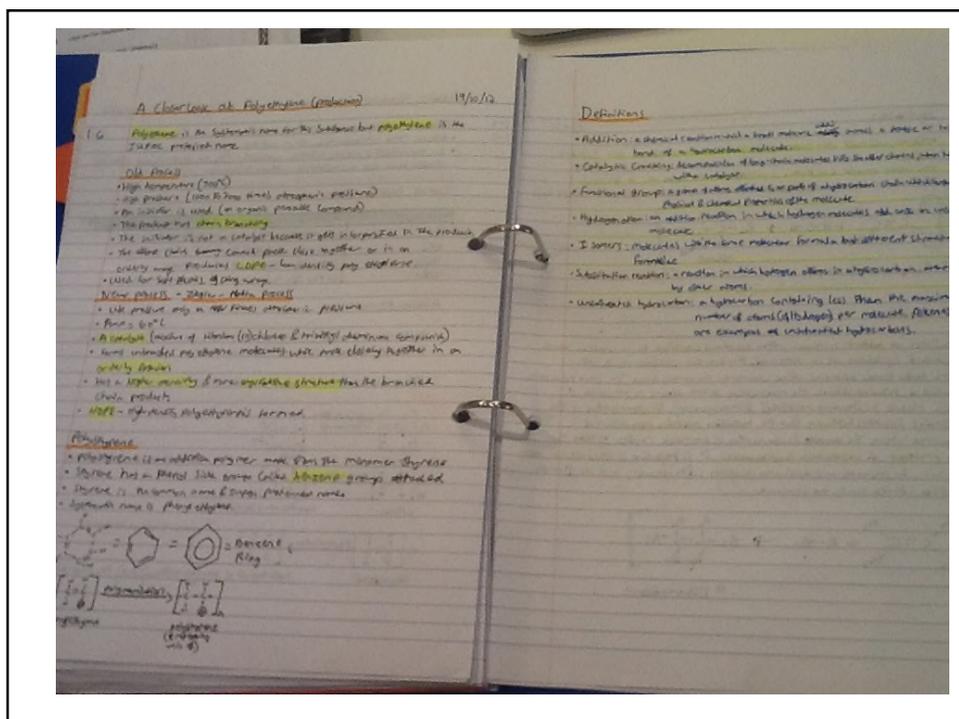
95

### ***For other subjects:***

- Usually you do study notes for that subject if there is a test coming up and the information is across lots of places, or you need to condense the information to make it easier to learn.
- However if you don't have homework, you can make mind maps for these subjects or get a head start on your point form study notes.
- Write the notes on paper (not in a book) so you can improve and condense them.



96



97

# Pushes and pulls

## 6

**GETTING STARTED**

Work in a small group to solve one or more of the following problems:

- ▶ You are having a competition with your brother to see whose Lego car can reach the bottom of the driveway in the shortest time. How could you design your car to beat his?
- ▶ Suppose a large asteroid has been detected on a collision course with Earth. What could be done to prevent the collision?
- ▶ You want to find out which type of adhesive tape is best for sticking things to the bench. How would you measure this?

*We will write the steps down afterwards.*

98

Write down on  
Page 4:

1. Look through all material.
2. Make a list of the headings and sub-headings.
3. Do a mind map overview.
4. For each heading, make point form notes.



99

**ANIMALS**

- animals eat other organisms for <sup>energy</sup> + materials for growth/movement
- all are **MULTICELLULAR**
- all are **VERTEBRATES**: they have bones for support so can live on land
- Blue whale is the largest (w/wh!) weighs 170-tonnes (the water helps support it)

**PLANTS**

- Multicellular organisms
- contain **CHLOROPHYLL**
- **PHOTOSYNTHESIS**

small mosses  
a fern  
to  
mushrooms  
from SA

↑

carbon dioxide + water  $\xrightarrow{\text{energy}}$  sugars + oxygen
- oldest: Californian redwood (can live for more than 7000 yrs)
- groups:
  1. Mosses
  2. Ferns
  3. Conifers
  4. Flowering plants

**FUNGI**

- include: mushrooms, toadstools, bread mould, yeasts
- no CHLOROPHYLL so can't make own food
- get food by growing on things they can use for food <sup>dead plants or animals</sup>
- reproduce by **SPORES**: these are in caps or bulbs which stick up from the rest.

100

### ANIMALS

- animals eat other organisms for <sup>\*energy</sup> materials for growth/movement
- all are **MULTICELLULAR**
- all are **VERTEBRATES**: they have bones for support so can live on land
- Blue whale is the largest (we think!) } weighs 170 tonnes (the water helps support it)




---

### PLANTS

- Multicellular organisms
- contain **CHLOROPHYLL**
- **PHOTOSYNTHESIS**

carbon dioxide + water  $\xrightarrow{\text{energy}}$  sugars + oxygen



- small mosses & thumms to giant sequoia trees from SA
- oldest Californian redwood (can live for more than 4000 yrs)
- Graps
  1. Mosses
  2. Ferns
  3. Conifers
  4. Flowering plants

101

#### STRUCTURE



Crust: 5-10 km  
Atmosphere  
Mantle  
Outer core  
Inner core

#### Plates

- CONVERGENT: one plate subducts
- DIVERGENT: plates move away from each other
- Transform

#### Tourism

200+ million tourism globally

tourists spend on ENVIRONMENTAL + CULTURAL impacts

Trekking is popular

LAND DEGRADATION



Windward side: rain, clouds

Leeward side: rain shadow, hot & dry

Coriolis effect influences wind direction

Westerlies

Trade winds

Anticlockwise winds

clockwise winds

Korobok winds



Windward side: dense forest

Leeward side: sparse vegetation

Westerlies

Trade winds

#### Ugandan Gorillas

DEFORESTATION

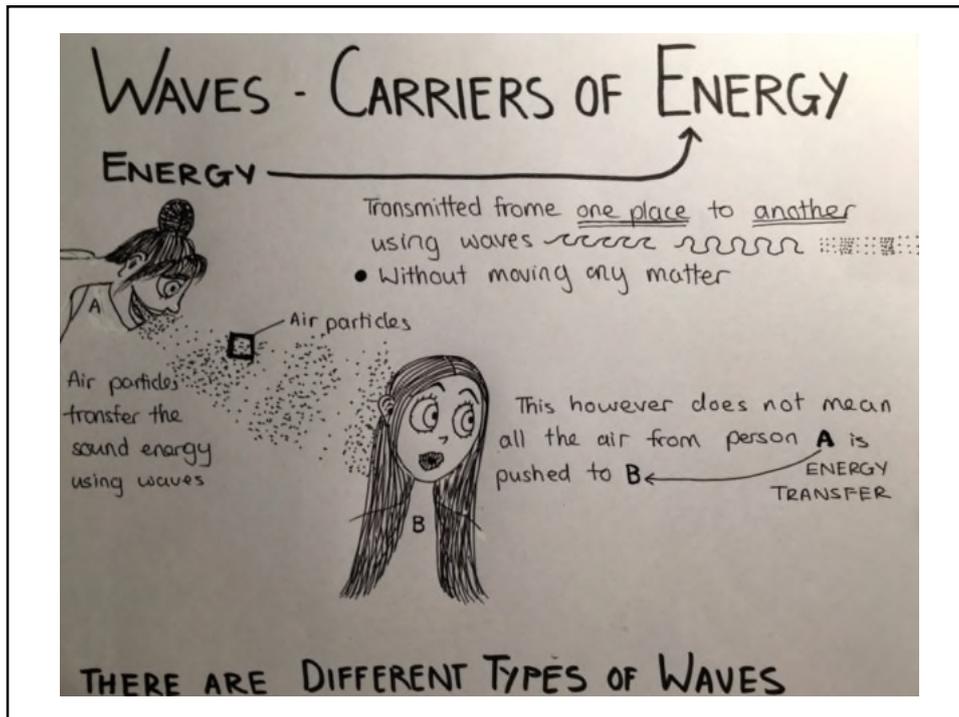
habitat being lost

poaching

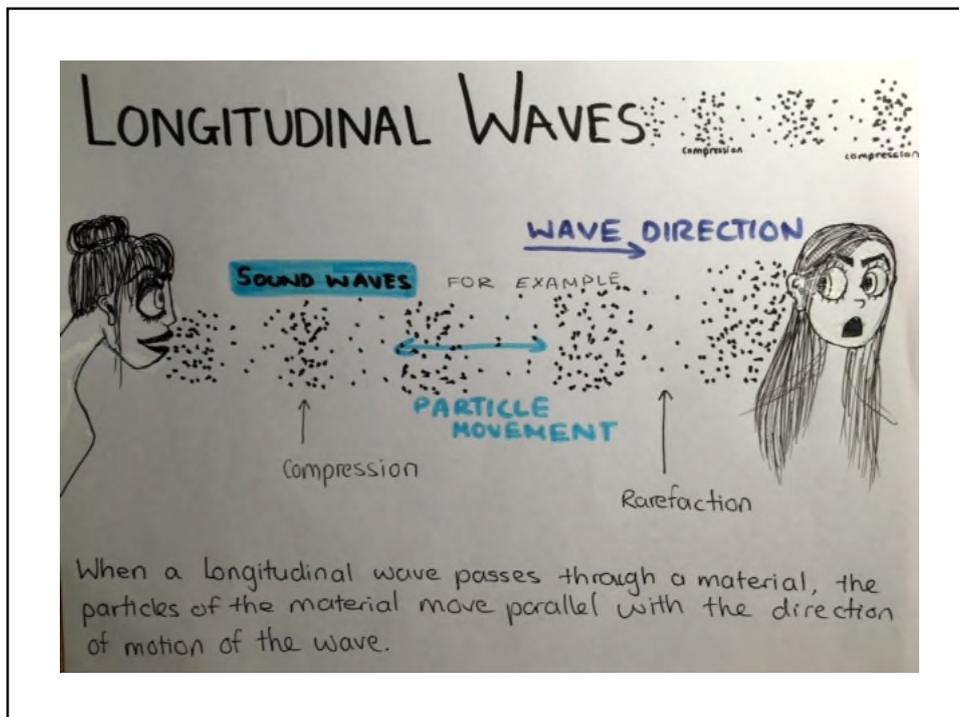
tourism

conservation

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103



104

- Smell
- Physical state
- Density
- Hardness
- Lustre
- Boiling Point
- Conductivity of Heat/Electricity
- Crystalline form
- Melting point
- Solubility

- Are greatly affected by temperature, pressure + state of rest/motion – Conditions
- May undergo change of state if conditions are altered
- Physical Change – Change in physical properties but not in composition of substances involved
- Usually easily reversed, low amounts of energy are required + no transfer of atoms between molecular/ionic species
- Useful for separation/purification of substances

- Metal Activity
- Electrode Potential

- Chemical Change – Change in which at least one new substance is formed
- Involves a chemical reaction which can be represented by a chemical equation
- Reactants – Starting substances
- Products – Substances formed
- Involves bond making/breaking, large amounts of energy are released/absorbed + aren't easy to reverse
- Used to synthesise new material, for analysis (testing for presence or absence of substances) + in storage/release of energy (burning)

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11

What are abiotic factors?

- NON-LIVING features of an ecosystem.
- They determine the types of biotic or LIVING organisms living/ adapted to an ecosystem.

There are two types of abiotic factors:

- Physical include temperature, rainfall, light
- Chemical include gases, such as oxygen, carbon dioxide and dissolved nutrients/minerals

Important definitions



**HABITAT:** - A part of an ecosystem (sub-unit of an ecosystem) in which an organism lives, feeds, and reproduces (specific space within an ecosystem).

**NICHE:** - the role an organism plays - the way an organism fits in - the role the species play in an ecosystem.

**COMMUNITY:** - All organisms/species living in the same place at the same time, usually interacting.

**POPULATION:** - Members of the SAME species, living in the same habitat at the same time.

5

Compare the abiotic characteristics of aquatic and terrestrial environments.

Characteristics	In Aquatic Environments	In Terrestrial Environments
<b>Viscosity:</b> affects swim and buoyancy. The movement of a medium makes it an object moving through it is a thick pushing through water.	- Water has a high viscosity. - This makes it more difficult for organisms to move through it.	- Air has a low viscosity. - This makes it easier for organisms to move through it.
<b>Buoyancy:</b> the amount of support experienced by an object immersed. (buoyancy, swimming, go water water)	- Buoyancy of the water gives support to both animals and plants. - may help their maintain their shape. - enables some organisms to float on different depths.	- Animals, plants don't experience much buoyancy from air. They need to be able to support themselves.
<b>Temperature Variation:</b> Main heat from the sun's radiation. Radiation depends on latitude. The further from the equator, the more the poles. Animals/plants survive only with in a certain temperature range.	- Water heats slower than air. - Temperatures vary in particular regions only a little from year to year. - Temperatures on various ocean layers vary from 30°C at the surface to freezing point in other regions. - Deep waters vary when an area.	- Land temps vary more than water. - Temperatures beneath the ground do not vary so much. - The ability to use or tolerate heat gain and loss is important in land organisms.

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## Coral Reefs

### Great Barrier Reef

- \* World's largest coral reef
- \* Australian icon = World Heritage listed (1981)
- \* Range of habitats (biodiverse):
  - fish
  - coral
  - sponge
  - mollus
  - etc.
  - coral reefs
  - islands
  - seagrass/mangroves
  - inner-reefs
  - deep oceanic water
  - etc.
- \* One of the most complex natural systems on earth

Area of Value	Why?
Historical / Archaeological	Many sites contain Aboriginal or Torres Strait Islander artefacts and origins
Economic - Tourism	<ul style="list-style-type: none"> <li>* almost 70 000 jobs</li> <li>* generates billions of dollars</li> <li>* 1 million people live in catchment area</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>* Many habitats</li> <li>* protects shore from erosion</li> <li>* prevents strong currents/waves from reaching beaches</li> </ul>

### Coral

- \* animals = marine invertebrates
- \* live in compact communities of polyps
- \* Polyps: apinose animal, few cm long, few mm diameter
  - stomach opening (eats/excreats)
  - tentacles (some have stinging cells)
  - stomach
- \* catch + eat fish/plankton
- \* zooxanthellae (algae) lives in coral
- \* extracts calcium carbonate to make hard shell from water (skeleton)

107

- \* Car Dealership
  - ADV → safe
    - guarantee no money owing
    - may provide warranty
    - trade in old car (save time Ⓢ)
    - test drive
    - get finance
  - BUT Disadv
    - may not get as much for on trade in
- \* Auction
  - ADV → get a bargain!
    - OK condition
  - BUT Disadv
    - not covered by warranty
    - no test drive
    - no inspectors on day
    - deposit immediately
- \* Private
  - ADV → may get a good deal
  - BUT Disadv
    - no warranty
    - rely on own judgement
    - have to organise inspectors
    - have to check not stolen
- \* Car Market
  - ADV → together in one place convenient
  - BUT Disadv
    - no warranty
    - rely on own judgement
    - may be bad condition or stolen!

108

## Caesar's Reforms:

- \* **Citizenship** → given to Transpadane Gauls
- \* **Calendar** → replaced old calendar with Julian calendar 
- \* **Employment** → landowners had to employ 1/3 freeman
- \* **Senate** → enlarged numbers to 900 ~~800~~
- \* **Provinces** → abolished system of tax farming in Asia
- \* **Army** → raised pay to 225 denarii per year <sup>60</sup>
- \* **Debt** → cancelled all interest since start of civil war
- \* **Public Works** → began Julian Forum, built roads 

109

*Mecca and Madinah were the two main cities that are associated with Islam when it began around 700 CE.*

*People in Pre-Islamic Arabia were mostly shepherds or merchants.*

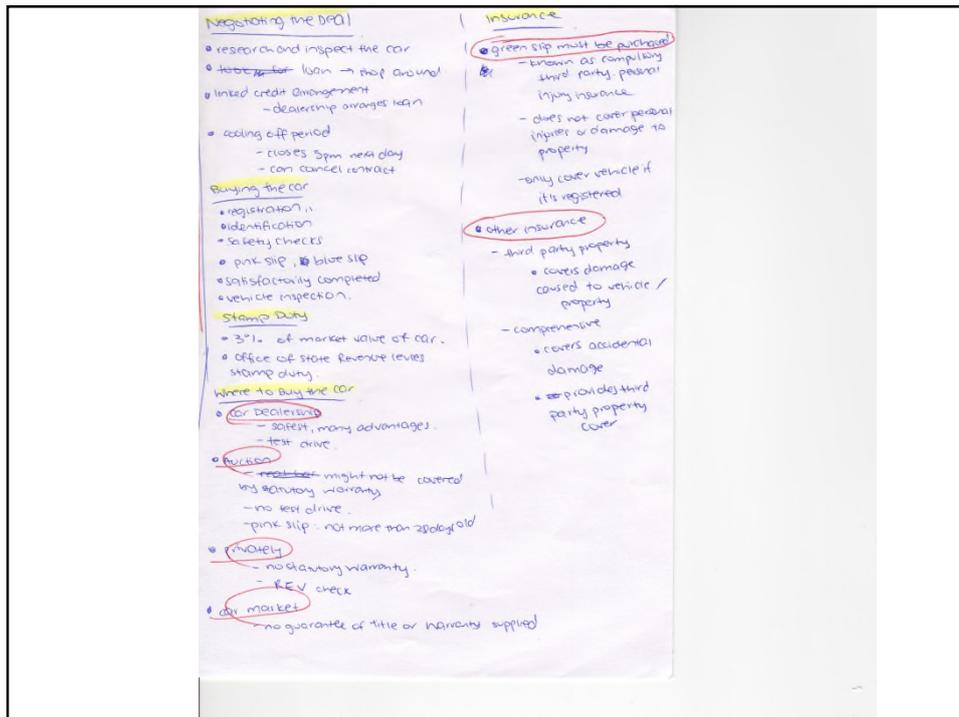
*Before that Mecca was regarded as a sacred city because of the Ka'bah which was a site of great religious significance and attracted many pilgrims bringing trade and industry based on the sale of idols etc for the worship at the Ka'bah.*

*Most of the local religious beliefs were polytheistic (belief in many gods) with Judaism and Christianity as established minorities. Other monotheistic followers were the "Hanifs" who believed in one supreme God over and above any other god.*

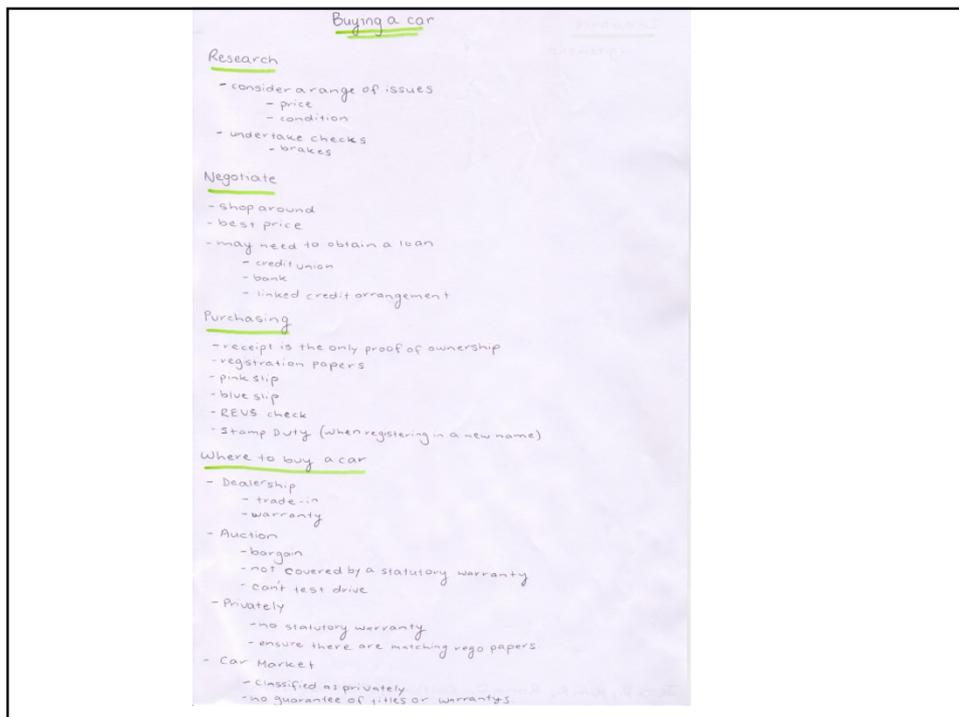
Could be this:

- **CITIES:** Mecca and Madinah: two main cities associated with Islam (began around 700 CE).
  - **PEOPLE:** in Pre-Islamic Arabia - mostly shepherds/merchants.
  - **MECCA:** Before that Mecca regarded as a sacred city because of the Ka'bah
  - **KA'BAH:** was a site of great religious significance and attracted many pilgrims (brought trade and industry for sale of idols etc for the worship at the Ka'bah)
  - **POLYTHEISTIC:** Most of the local religious beliefs were polytheistic (belief in many gods)
  - **MINORITIES:** Judaism and Christianity were established minorities.
  - **MONOTHEISTIC:** Others were the "Hanifs" who believed in one supreme God over and above any other god.
- 

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111



112

SEAN FERREIRA

BUYING A CAR.

- Buy a car for all sorts of reasons.
- Basic factors should be created.

FACTORS	REASONING
OBSERVE	<ul style="list-style-type: none"> <li>Look before you buy.</li> <li>Best possible price.</li> <li>Shop around.</li> <li>Consider range of issues → number of checks.</li> </ul>
NEGOTIATING	<ul style="list-style-type: none"> <li>Best possible price.</li> <li>Get more for your money.</li> <li>Get an inspection.</li> <li>Get finance option.</li> </ul>
WHERE TO BUY	<ul style="list-style-type: none"> <li>Continuously shop around - Reg factor.</li> <li>Number of options.</li> <li>Many dealerships - variation in prices.</li> </ul>
BUYING FROM DEALERSHIP	<ul style="list-style-type: none"> <li>Safest way.</li> <li>many advantages eg. By law dealer has to provide <del>...</del>   opportunity to trace in <del>...</del>   old car</li> </ul>

113

### The Cold War

1.	Rise of tension between Russia & West	<ul style="list-style-type: none"> <li>• build up of distrust</li> <li>• tension extends back</li> </ul>
2.	Communism	<ul style="list-style-type: none"> <li>• political, social, economic system based on shared ownership + state wealth.</li> <li>• favours working class</li> </ul>
3.	Proxy Wars	<ul style="list-style-type: none"> <li>• Vietnam (1954-1975)</li> <li>• Korea (1950-1953)</li> <li>• Afghanistan (1979-1989)</li> </ul>

\* Karl Marx:

"From each according to his ability, to each according to his need."

114

Buying a Car

Topic	Things to learn
Negotiating ≠ Financing	- get best price - can you afford it - interest rate - source of money
Recurring Costs \$\$\$	- fuel efficiency - fuel price - insurance - registration - repairs & maintenance.
Initial cost \$\$\$	- price of car - registration - on road cost.
Where to buy it?	- car dealer - auction - privately sold - car make
Other issues	- can you afford it - loan repayments

Get the best price!

115

Buying a Car

• <u>Look Before You Leap</u>	<ul style="list-style-type: none"> <li>• Best possible price</li> <li>• Consider a range of issues</li> <li>• Check car before buying it.</li> <li>• Reliable</li> </ul>
• <u>Negotiating The Deal</u>	<ul style="list-style-type: none"> <li>• Negotiate best price</li> <li>• Make sure to shop around.</li> <li>• Research an inspection.</li> <li>• Allow to negotiate best prices.</li> </ul>
• <u>Buying The Car</u>	<ul style="list-style-type: none"> <li>• Seller and registration info</li> <li>• Receipt is only proof that you own the car.</li> <li>• Certificate of rego shows only the person who takes responsibility of the car.</li> </ul>
• <u>Stamp Duty</u>	<ul style="list-style-type: none"> <li>• OSR levies stamp duty when a vehicle is registered in a new name</li> <li>• Pay stamp duty on the value of the vehicle</li> <li>• 3% value of car (to SD)</li> </ul>
• <u>Where To Buy a Car</u>	<ul style="list-style-type: none"> <li>• Buying a car from dealership is the safest option</li> <li>• At auction ⇒ real bargain</li> <li>• Buying private vehicle ⇒ relying on own judgement</li> </ul>

116

### Buying a Car

Look before you leave	- Best Possible Price - Complete a number of checks
Negotiating the deal	- If paying repairs, negotiate a lower price - Loan - Cooling off period
Buying the Car	- Complete all inspections - REVS - Pink slips - RTA - Blue slips
Stamp duty	- Office of State Revenue - RTA collects Stamp Duty
Where to buy a car?	- Balanced Advantages and Disadvantages
Buying a car from Auction	- Pink slip - PUVIS - RTA
Buying the car Privately	- REVS - VIN
Buying from a market	- Car Market - No guarantees
Insurance.	- CPT - Green slip - MAA - Third Party Property - Comprehensive

117

Organising Comments	Key Facts	Supporting Info
<b>Causes</b>	<ul style="list-style-type: none"> <li>•Alliance systems</li> <li>•Competition for colonies</li> <li>•Militarism and nationalism</li> </ul>	Causes of the war are not at all clear cut - it had been building up some time prior to 1914.
<b>Effects</b>	<ul style="list-style-type: none"> <li>•Destruction of middle class in Germany</li> <li>•League of Nations</li> <li>•Rich get richer</li> </ul>	Soldiers returning from the trenches would find a different Britain to the one of 1914, with high unemployment, a rising cost of living, strikes by new organised unions and a severe shortage of houses.

118

**Page 5 – do this exercise at home to show your parents what your skills are like.**

Summarising is where you identify the key points or main ideas and then condense these into point form or notes. The organisation, neatness and legibility of these notes are very important. Your brain likes patterns and structure so make sure your study notes are well organised in order to help your brain remember the content.

- \*
- \*

To make a summary, you should first look through your class notes, textbook and any handouts to work out what the main headings or topics are. Then for each heading, re-read the material on this topic and write down the most important points you will need to remember.

Steps

- 1.
- 2.
- 3.
- 4.

Everyone's summaries are different. Some people like lots of detail, some people like examples, some people like just the main points. Making summaries is also a good way to see if you really understand the work. It means you are actually revising as you go!

- \*

119

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- \* Condense into points
- \* Organised, neat, structured

To make a summary, you should first look through your class notes, textbook and any handouts to work out what the main headings or topics are. Then for each heading, re-read the material on this topic and write down the most important points you will need to remember.

Steps

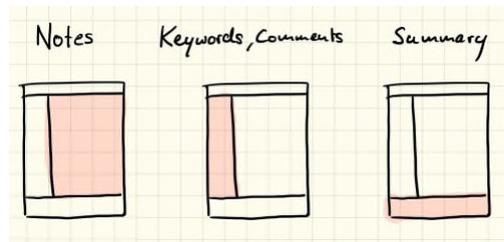
1. Look through everything
2. Work out headings
3. Re-read material
4. Write down imp. points

Everyone's summaries are different. Some people like lots of detail, some people like examples, some people like just the main points. Making summaries is also a good way to see if you really understand the work. It means you are actually revising as you go!

- \* Helps you understand/revise

120

## Cornell Note-Making (Page 6)



- Cornell note-taking system is a format for organising and condensing notes, it can be used for taking notes in a class or lecture, analysing a text, or for making study notes to prepare for a test.
- The Cornell note-taking system was invented in 1950s by Walter Pauk, an educator professor at Cornell University.
- You can adapt this system to suit your preferences and needs.

121

CUES:	NOTES:
<input type="checkbox"/>	
who rules Mordor?	1. Government A. ruled by Sauron B. Has a tower
Who lives there?	2. People A. has orcs B. Has Trolls C. Has Nazgul
<input type="checkbox"/>	
Can you visit?	3. Accessibility A. cannot simply be walked into.
	<b>SUMMARY:</b>
<input type="checkbox"/> Mordor is ruled by Sauron, is populated by orcs, trolls, and Nazgul and cannot simply be walked into	

*The cues can be questions to test yourself on the notes.*

122

## Kingdom Protista

Phylum Sarcodina

*What part of the cell controls re-production & metabolism?*

**PSEUDOPODS:** A temporary, foot-like ext of a cell, used for locomotion or engulfing food.

- Eukaryotic cell has distinct membrane-bound nucleus.

**NUCLEUS:** The region of a eukaryotic cell that contains the cell's main DNA.

- free nucleus has DNA it controls reproduction & metabolism.

**VACUOLE:** A membrane-bound 'sac' within the cell.

- food v.: holds food while digested.

- contractile v.: regulates amount of H<sub>2</sub>O in cell.

**ECTOPLASM:** The thin, watery cytoplasm near plasma membrane of some cells.

**ENDOPLASM:** Dense cytoplasm found in interior of many cells.

*Has no standard body shape. Uses pseudopods to move.*

### What is the difference between resonance structures & true structures?

**Resonance Hybrid:** True structure of molecule represented by a set of resonance structures.

**Why does charge delocalization stabilize a molecule?**

"True Structure" Positive charge is delocalized over carbon 1 & 3.

Some sets of resonance structures have one structure that is very good.

**BEST** because no formal charges.

**Worst** minor contributors.

**Next best** major contributor lowest energy most stable.

**Beyond Worst**

Resonance structures are used to represent true structure of molecule. The more resonance structures you can draw, the more stable the molecule due to delocalization of e<sup>-</sup>.

123

More than half of children in England and Wales bullied about appearance

newspaper article in guardian. (emailed self link to save)

<p>* Find the original report + read</p> <p>Q are there any other studies that support these figures?</p> <p>Q what other similar research is there?</p> <p>* Look in library / Discover.</p> <p><b>mental health</b></p> <p>Q how were interviews conducted?</p> <p>Q what are limitations of study?</p> <p>Q is there a cause?</p> <p>* Look for literature</p> <p>* Find out more about this.</p>	<p>YMCA England + Wales Report - 'In Your Face'</p> <p>More than 1/2 of 11-16 yr olds bullied about appearance.</p> <p>40% targeted at least once per WK</p> <p>53% of <b>bullied</b> on appearance - anxiety</p> <p>29% depressed</p> <p>1 in 10 suicidal thoughts</p> <p>9% self harm</p> <p>Quote from Denise Hutton - Chief Exec of YMCA</p> <p>1006 children spoke to in study</p> <p>Report acknowledges <b>social media</b> eg snapchat but not cause "merely provide a vehicle".</p> <p>87% who bullied = <b>verbal abuse</b>, 25% <b>physical abuse</b>.</p> <p>YMCA encourages use of <b>Body Confidence</b> Campaign Toolkit</p>
--	---

**SUMMARY**

- over half of teens are bullied
- main reason is appearance
- High N's for anxiety depression etc. Mental / Physical health

*Or they can be questions to yourself of things you need to find out about or research or explore further.*

124

October 3

Types of Leadership Theory

Pg. 127 →

**Cue Column**

MASLOW

- Self-actualization
- Esteem
- Social
- Security
- Physiological

Pg. 122 →

Why do some believe in Theory X and others Theory Y?

Motivational Theories -

- Explain how human relations affect motivation.

**Note-Taking Area**

Maslow's Hierarchy of needs (motivational theory)

1. Physiological Needs - survival, food, shelter
2. Security Needs - stability and protection
3. Social Needs - friendship and companions
4. Esteem Needs - status and recognition
5. Self-Actualization - self-fulfillment

\* Developed By Abraham Maslow  
\* Must meet lower needs first.

Theory X - holds that people are naturally irresponsible.

Theory Y - holds that people are naturally self-motivated and responsible.

\* Developed by Douglas McGregor  
\* What type of leader you are is determined by which theory you believe in.

**Summary Area**

Motivational theories explain how and why people are motivated. 2 motivational theories are Maslow's hierarchy of needs and Theory X and Y

Or the first column can be where you highlight the key ideas - or it can be a mix as in this example.

125

<p><b>Name:</b> The Rabbits</p> <p><b>Date:</b> Feb, 2020</p> <p><b>Topic:</b> Protest</p> <p><b>Focus:</b> Non-violent forms of protest</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Key Points</th> <th style="width: 50%;">Details</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> <ul style="list-style-type: none"> <li>• The <b>allegory</b> helps give the story depth and allows the reader to search for the deeper meaning beneath the text. It also provides a clever way to present the situation, preventing the plot from being obvious and one-dimensional.</li> <li>• The numbers drawn all over the pages represent how Western culture, particularly when countries were being colonized, obsesses over things being 'perfect' and systematic. It also could <b>allude</b> to the science being conducted on the area and animals within the British armed. This allows the reader to view Western science and ideology from a <b>different perspective</b>, showing how strange it is from an objective view.</li> <li>• The book uses techniques such as <b>allusion</b> to display to us how the Westerners were presenting themselves to the natives, forcing the message that they were the strong ones, and were correct and the indigenous were powerless and weak. 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This phrase shows the mindset and ideology of the British people wishing to colonize Australia. They used their might to overthrow the Native Australians rather than peacefully negotiate with them, thinking the native culture to be 'vulgar' and 'uncivilized', and believing their culture to be the 'right' one.</li> <li>• There are constant references to large industrial machines, and these are a part of the text's <b>imagery</b>. The large, grey machines such as the ones on Page 22 are featured throughout the book many times, and represent the rabbits need to produce things fast, and constantly be efficient, undermining the importance of nature or welfare.</li> <li>• <b>Tone and Mood</b> - Sombre, wistful, reminiscent, sad - achieved through use of colour and developing plot.</li> <li>• A children's picture book illustrator once said that the most significant thing an illustration must do to be effective is make the audience ask questions and 'The Rabbits' certainly does this.</li> </ul> </td> </tr> </tbody> </table> <p><b>Summary:</b> This is an allegorical picture book following the story of the European settlement of Australia using the symbolism of rabbits to represent the European colonisers and possums to represent the indigenous Aboriginals. Just as occurred, Cook's arrival in Australia is largely friendly and based on mutual curiosity when the rabbits first arrive. Before too long, however, the white rabbits are exhibiting a much blacker nature as exploration transforms into invasion and Tan demonstrates this through increasingly dark colour usage and imposing size and silent features.</p>	Key Points	Details	<ul style="list-style-type: none"> <li>• The <b>allegory</b> helps give the story depth and allows the reader to search for the deeper meaning beneath the text. It also provides a clever way to present the situation, preventing the plot from being obvious and one-dimensional.</li> <li>• The numbers drawn all over the pages represent how Western culture, particularly when countries were being colonized, obsesses over things being 'perfect' and systematic. It also could <b>allude</b> to the science being conducted on the area and animals within the British armed. 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The poet uses verbs to highlight the act of work but uses abstract qualities to demonstrate that everyone has the capacity to write poetry if they look deep within themselves.</p>	Key Points	Details	<ul style="list-style-type: none"> <li>• The poem is an extended metaphor relating the making of bread to the making of poetry.</li> <li>• The form is significant and makes the poem accessible to all.</li> <li>• The poem uses figurative and literal language and concrete and abstract features.</li> <li>• The meaning can be extended out beyond the making of poetry to the making of life.</li> </ul>	<ul style="list-style-type: none"> <li>• Title: Metaphor/imagery/symbolism - <b>Loaf of poetry, not bread</b> as we would expect.</li> <li>• <b>Bread</b> is vital to our diets, as poetry is to our souls. Bread is also taken for granted as common, basic food. Is life taken for granted? Is poetry taken for granted? 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**Page 6 – do this exercise at home to show your parents what your skills are like.**

	<p>Deep within the Earth it is so hot that some rocks slowly melt and become a thick flowing substance called magma. Since it is lighter than the solid rock around it, magma rises and collects in magma chambers. Eventually, some of the magma pushes through vents and fissures to the Earth's surface. Magma that has erupted is called lava.</p> <p>Some volcanic eruptions are explosive and others are not. The explosivity of an eruption depends on the composition of the magma. If magma is thin and runny, gases can escape easily from it. When this type of magma erupts, it flows out of the volcano. A good example is the eruptions at Hawaii's volcanoes. Lava flows rarely kill people because they move slowly enough for people to get out of their way. If magma is thick and sticky, gases cannot escape easily. Pressure builds up until the gases escape violently and explode. A good example is the eruption of Washington's Mount St. Helens. In this type of eruption, the magma blasts into the air and breaks apart into pieces called tephra. Tephra can range in size from tiny particles of ash to house-size boulders.</p> <p>Explosive volcanic eruptions can be dangerous and deadly. They can blast out clouds of hot tephra from the side or top of a volcano. These fiery clouds race down mountainsides destroying almost everything in their path. Ash erupted into the sky falls back to Earth like powdery snow. If thick enough, blankets of ash can suffocate plants, animals, and humans. When hot volcanic materials mix with water from streams or melted snow and ice, mudflows form. Mudflows (lahars) have buried entire communities located near erupting volcanoes.</p>

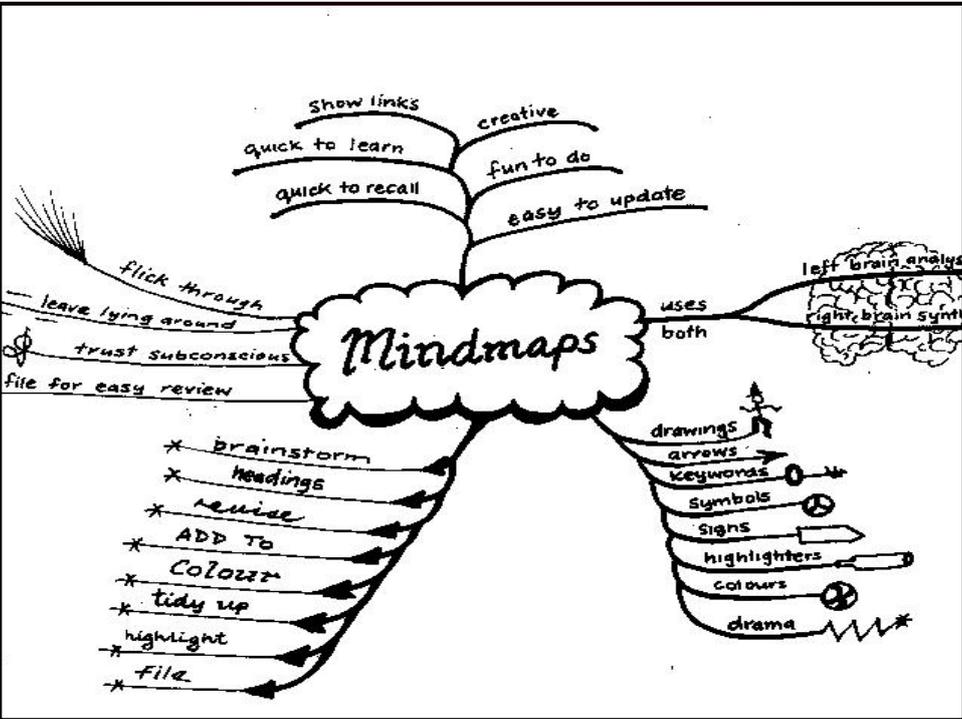
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<p>What is magma, magma chambers and lava?</p>	<p>Deep within the Earth it is so hot that some rocks slowly melt and become a thick flowing substance called magma. Since it is lighter than the solid rock around it, magma rises and collects in magma chambers. Eventually, some of the magma pushes through vents and fissures to the Earth's surface. Magma that has erupted is called lava.</p>
<p>What determines if a volcanic eruption is explosive and what are some examples?</p>	<p>Some volcanic eruptions are explosive and others are not. The explosivity of an eruption depends on the composition of the magma. If magma is thin and runny, gases can escape easily from it. When this type of magma erupts, it flows out of the volcano. A good example is the eruptions at Hawaii's volcanoes. Lava flows rarely kill people because they move slowly enough for people to get out of their way. If magma is thick and sticky, gases cannot escape easily. Pressure builds up until the gases escape violently and explode. A good example is the eruption of Washington's Mount St. Helens. In this type of eruption, the magma blasts into the air and breaks apart into pieces called tephra. Tephra can range in size from tiny particles of ash to house-size boulders.</p>
<p>What are the dangers of eruptions?</p>	<p>Explosive volcanic eruptions can be dangerous and deadly. They can blast out clouds of hot tephra from the side or top of a volcano. These fiery clouds race down mountainsides destroying almost everything in their path. Ash erupted into the sky falls back to Earth like powdery snow. If thick enough, blankets of ash can suffocate plants, animals, and humans. When hot volcanic materials mix with water from streams or melted snow and ice, mudflows form. Mudflows (lahars) have buried entire communities located near erupting volcanoes.</p>
<p>Magma is hot melted rocks. Thick magma means gases can't escape and may cause an explosion. Magma becomes lava in an eruption. This can be dangerous causing clouds of hot tephra, thick ash and mudflows all which can very dangerous.</p>	

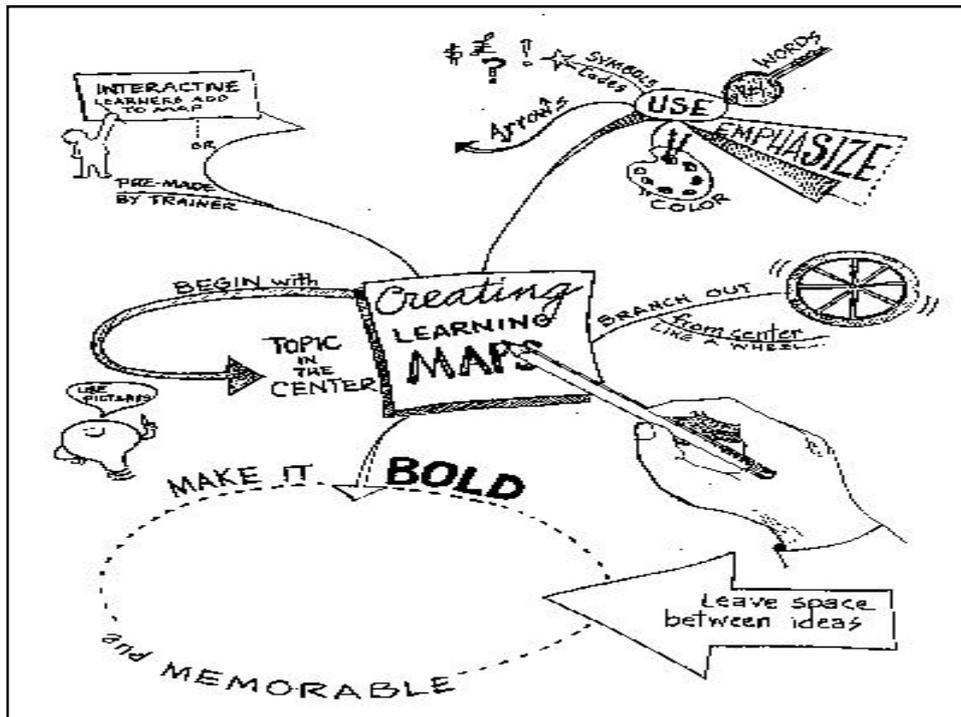
128

<p>What is magma, magma chambers and lava?</p>	<ul style="list-style-type: none"> <li>- <b>Magma:</b> melted rocks deep in the hot earth – thick &amp; flowing</li> <li>- <b>Magma chambers:</b> it becomes lighter than rock so rises into magma chambers</li> <li>- <b>Lava:</b> is magma that pushes through vents /fissures to erupt at the surface</li> </ul>
<p>What determines if a volcanic eruption is explosive and what are some examples?</p>	<ul style="list-style-type: none"> <li>- If magma is thin and runny, gases can escape easily from it, flows slowly out of volcano (eg Hawaii) .</li> <li>- But if pressure builds up, gases escape violently and explode (eg Washington's Mount St. Helens)</li> <li>- <b>Tephra:</b> In this type of eruption, the magma blasts into the air and breaks apart into pieces called tephra (can be tiny ash or to house-size boulders).</li> </ul>
<p>What are the dangers of eruptions?</p>	<p>Explosive volcanic eruptions can be dangerous and deadly.</p> <ul style="list-style-type: none"> <li>- Can blast out clouds of hot <b>tephra</b> that destroy almost everything in their path.</li> <li>- <b>Ash</b> erupts into the sky and if thick enough, can suffocate plants, animals, and humans.</li> <li>- When hot volcanic materials mix with water from streams or melted snow and ice, <b>mudflows</b> form. Mudflows (lahars) have buried entire communities.</li> </ul>
<p>Magma is hot melted rocks. Thick magma means gases can't escape and may cause an explosion. Magma becomes lava in an eruption. This can be dangerous causing clouds of hot tephra, thick ash and mudflows all which can be very dangerous.</p>	

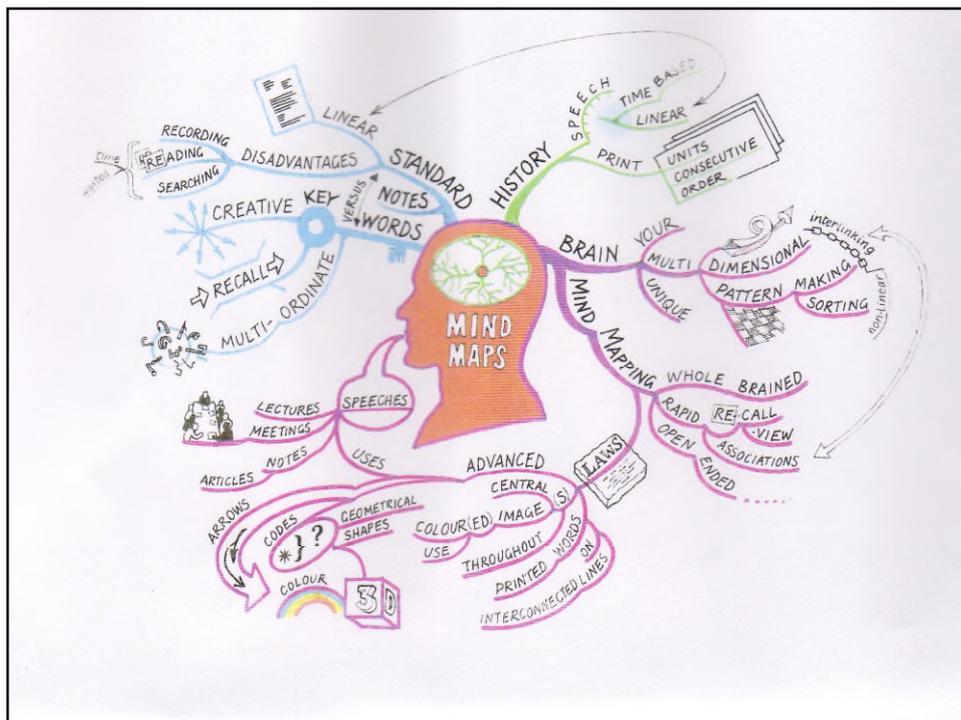
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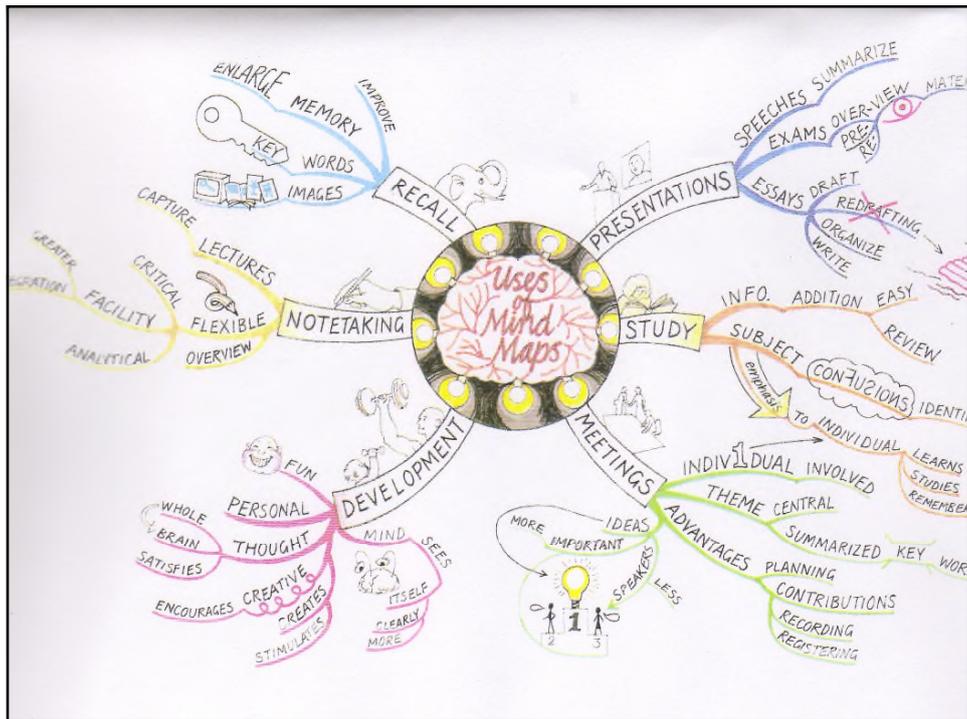
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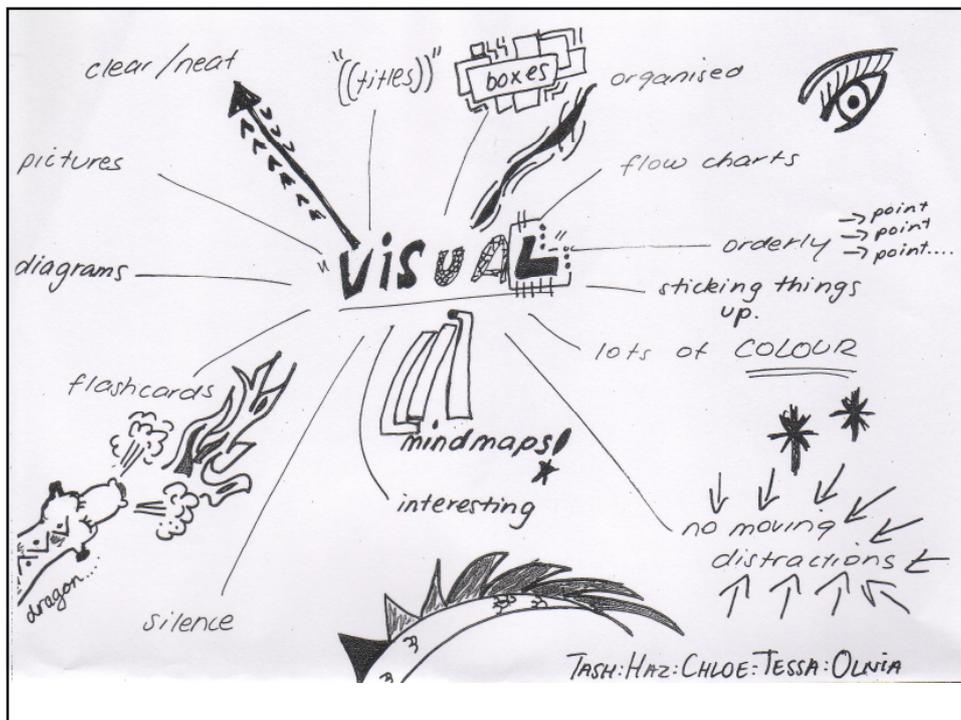
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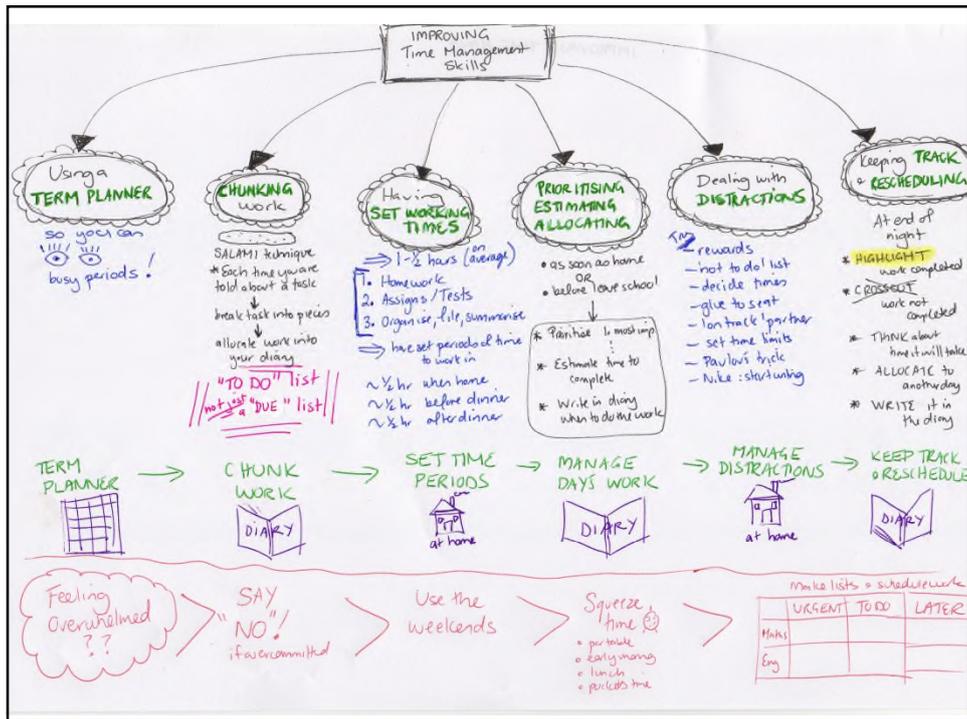
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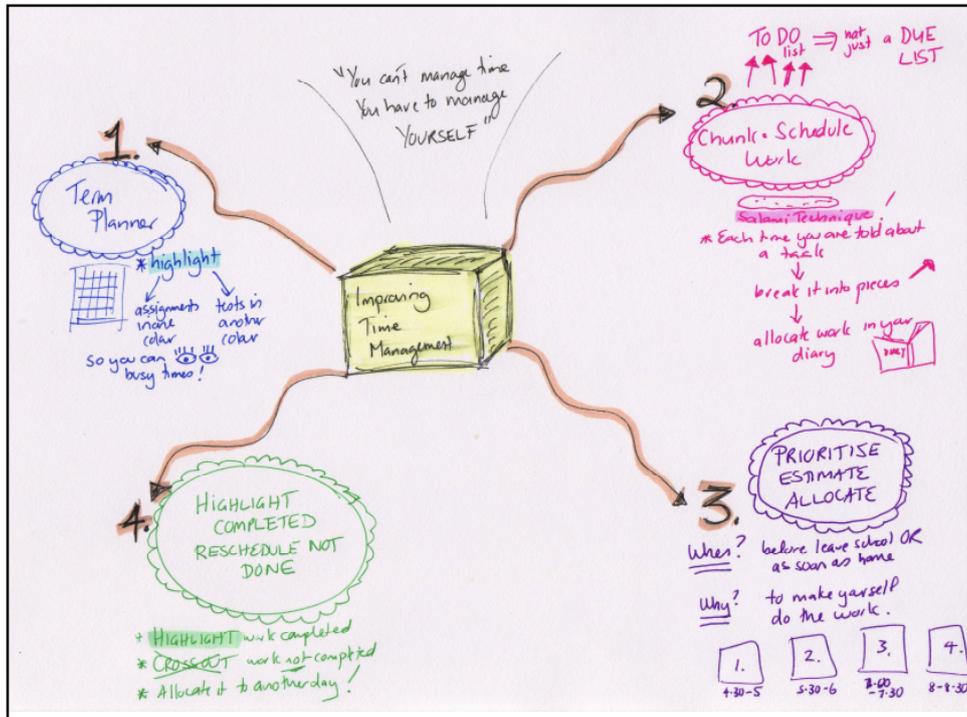
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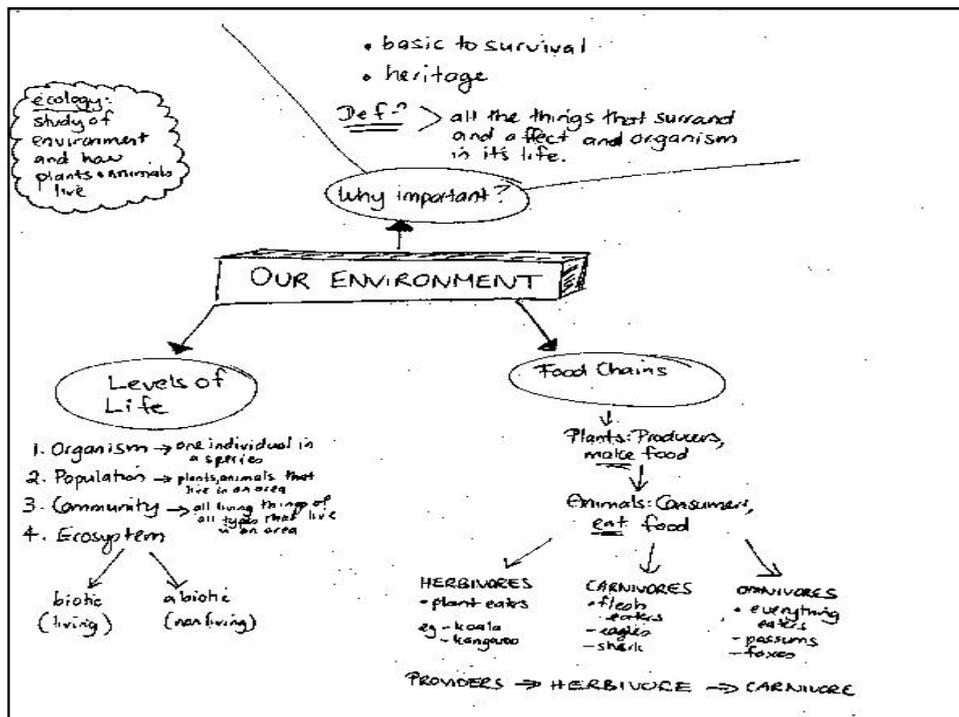
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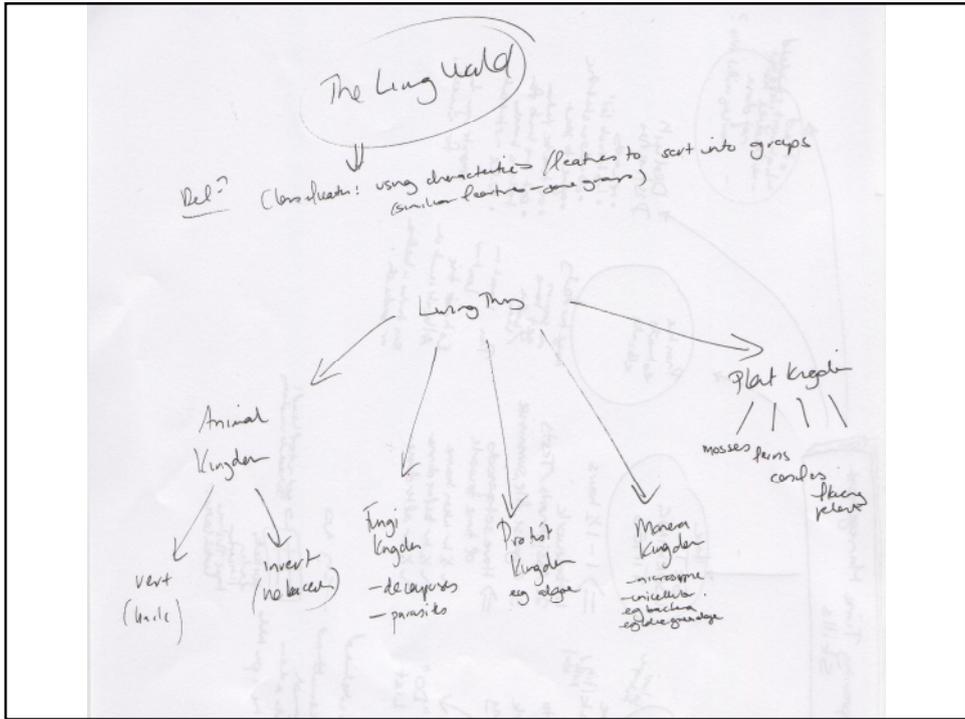
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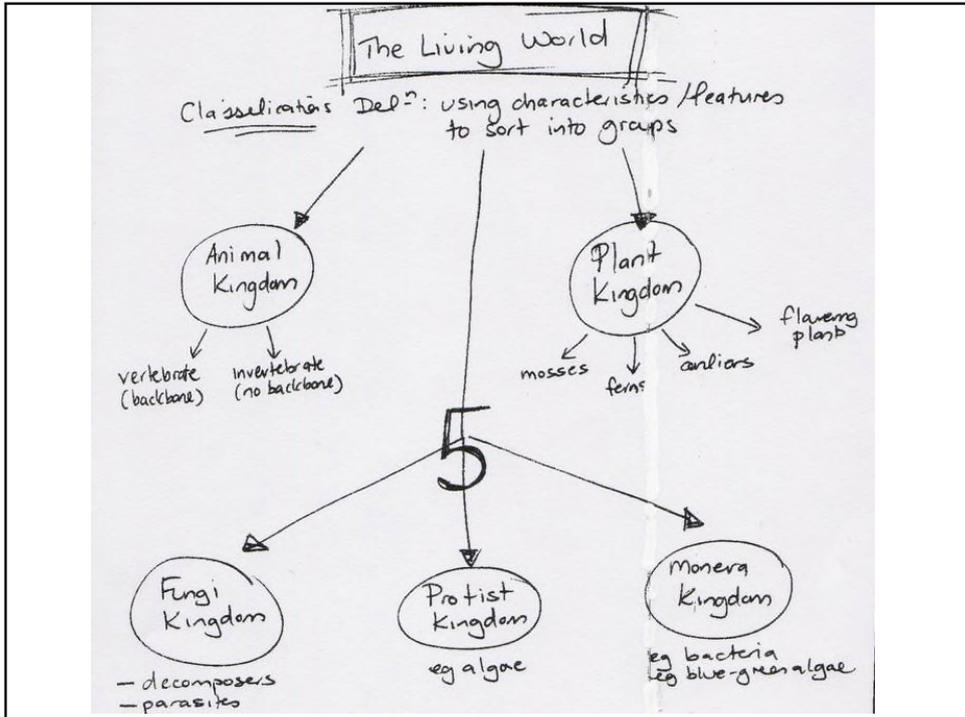
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We can use the classifications or features of the living world to sort the members into groups. The Living World can be classified into 5 distinct groups. The animal kingdom consists of vertebrates which have a backbone and invertebrates which have no backbone. The Fungi Kingdom is another group and this consists of decomposers such as parasites. An example of the Protist Kingdom is algae except for the blue-green algae which along with bacteria, belong to the Monera Kingdom. The Plant Kingdom consists of flowering plants, mosses, conifers and ferns. All living things on our world can be classified into one of these 5 kingdoms.

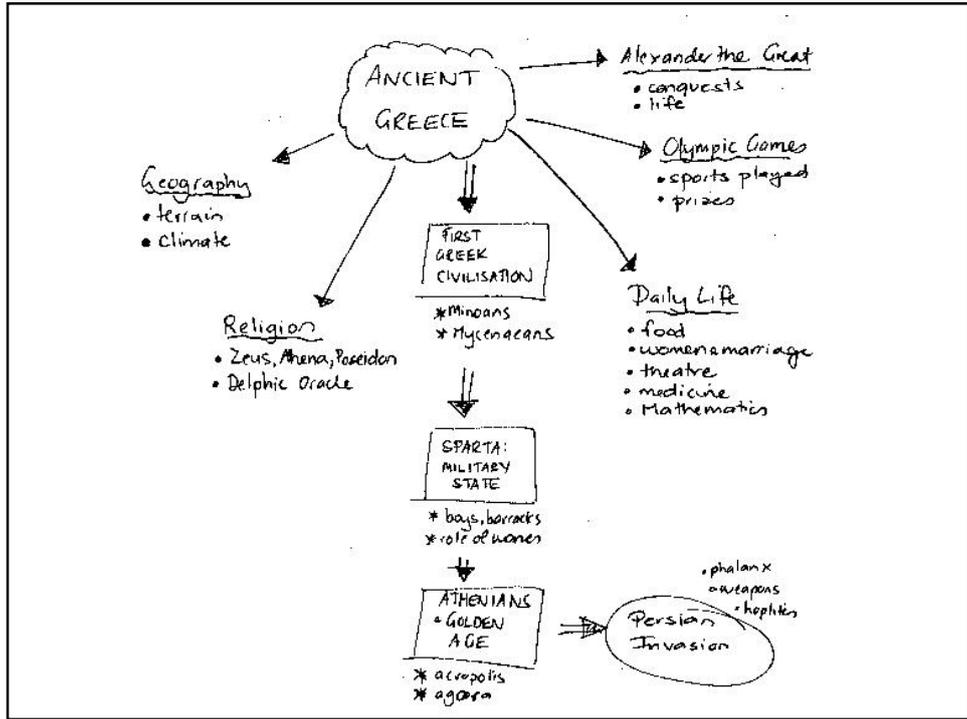
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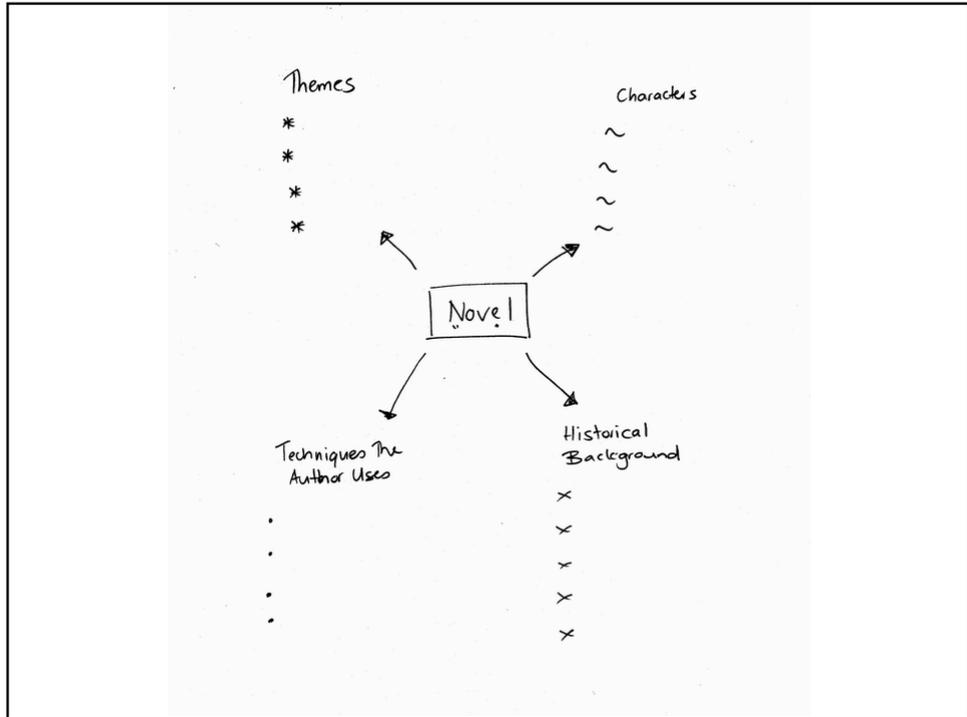
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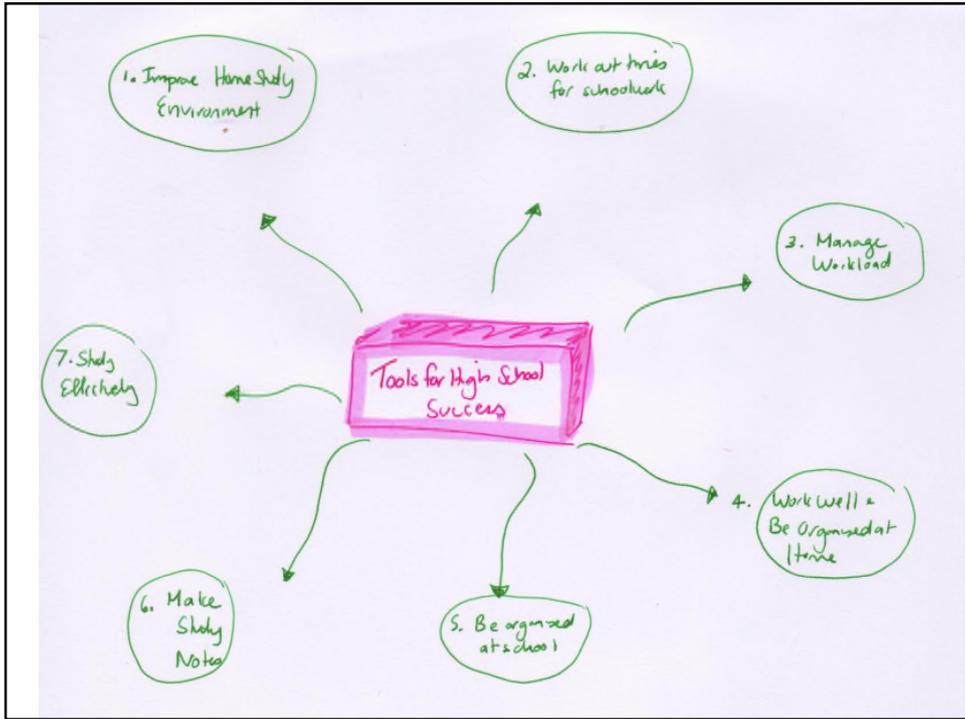
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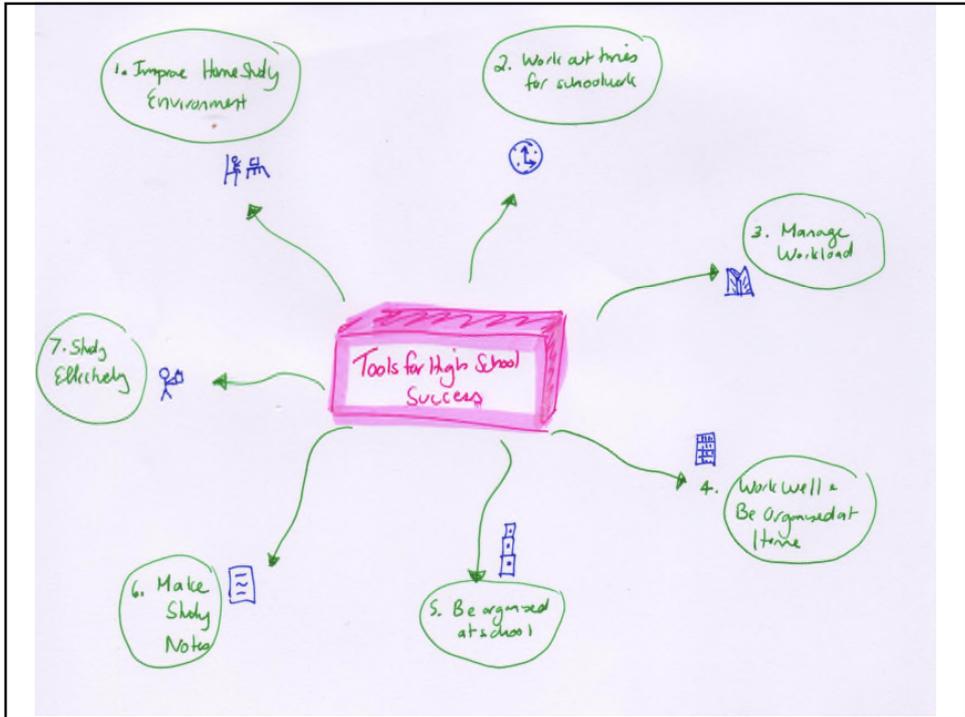
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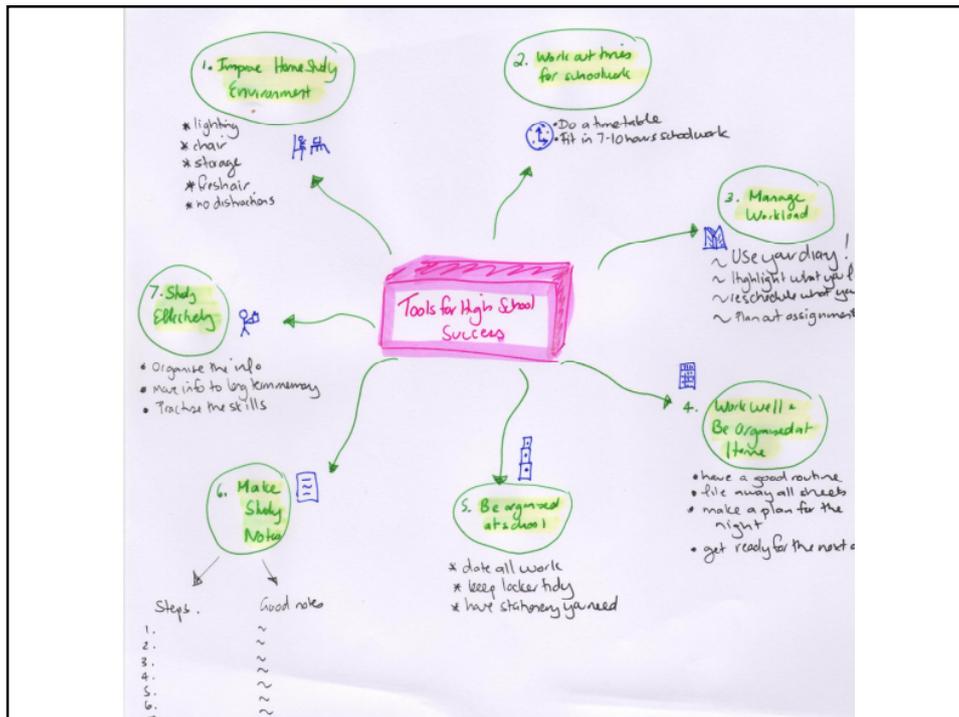
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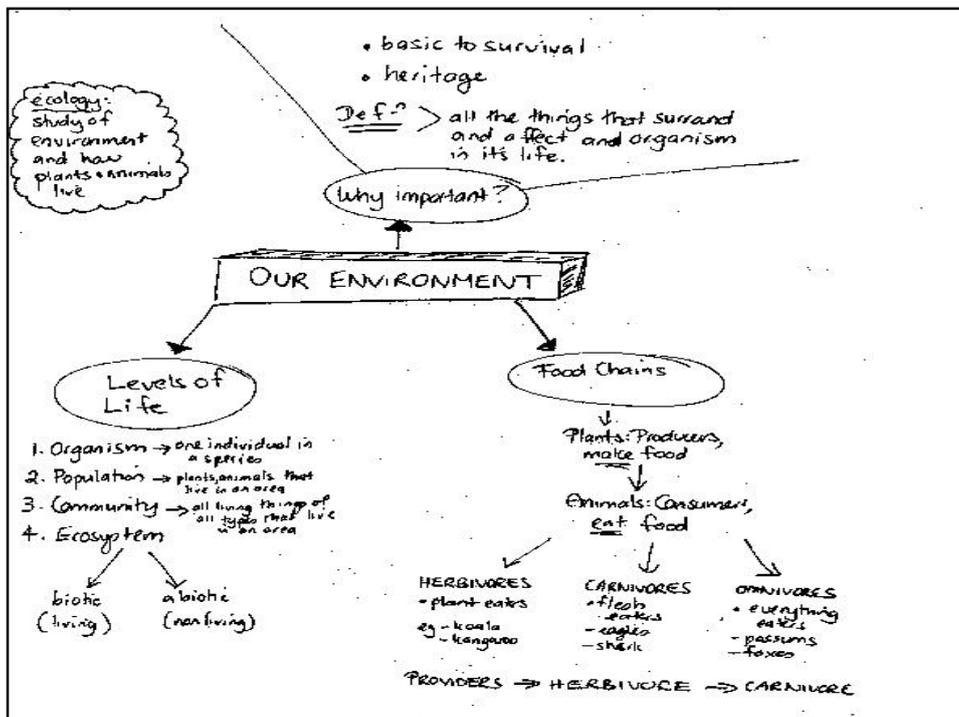
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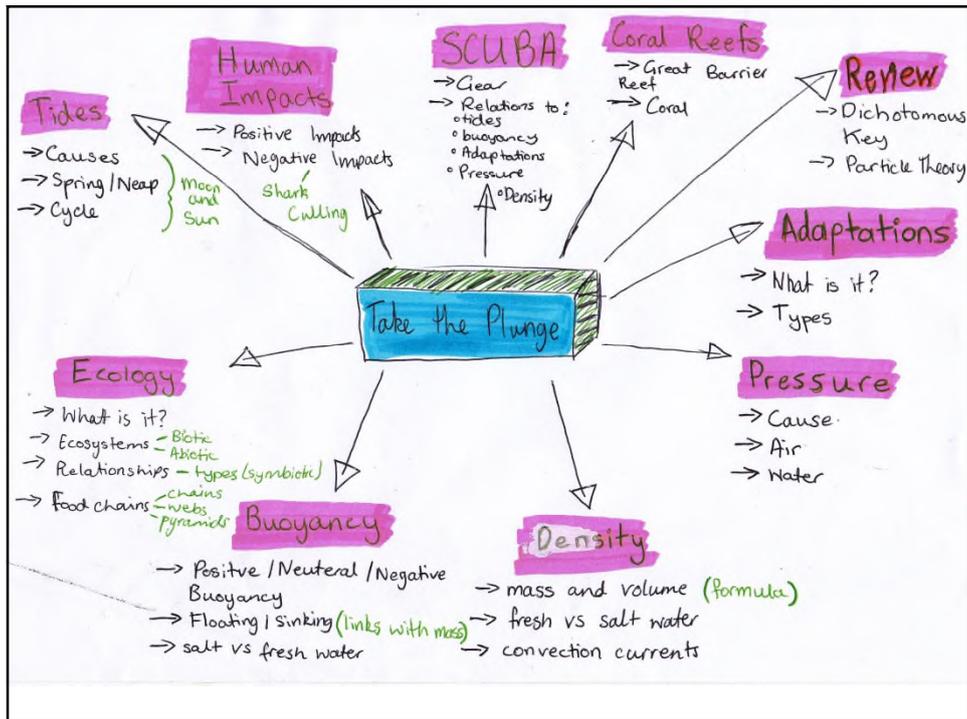
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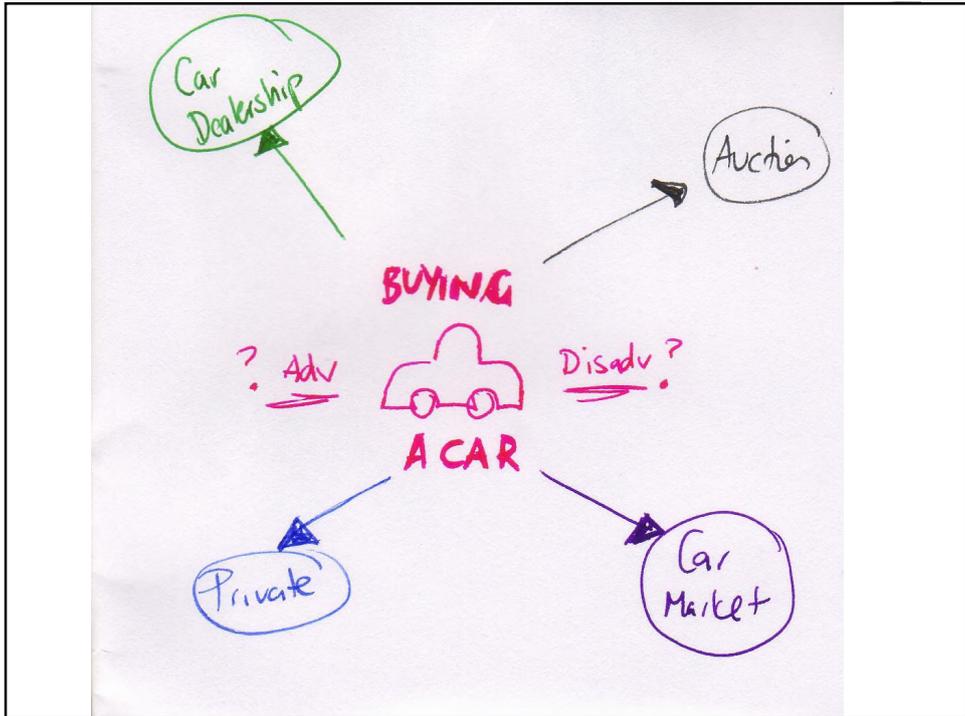
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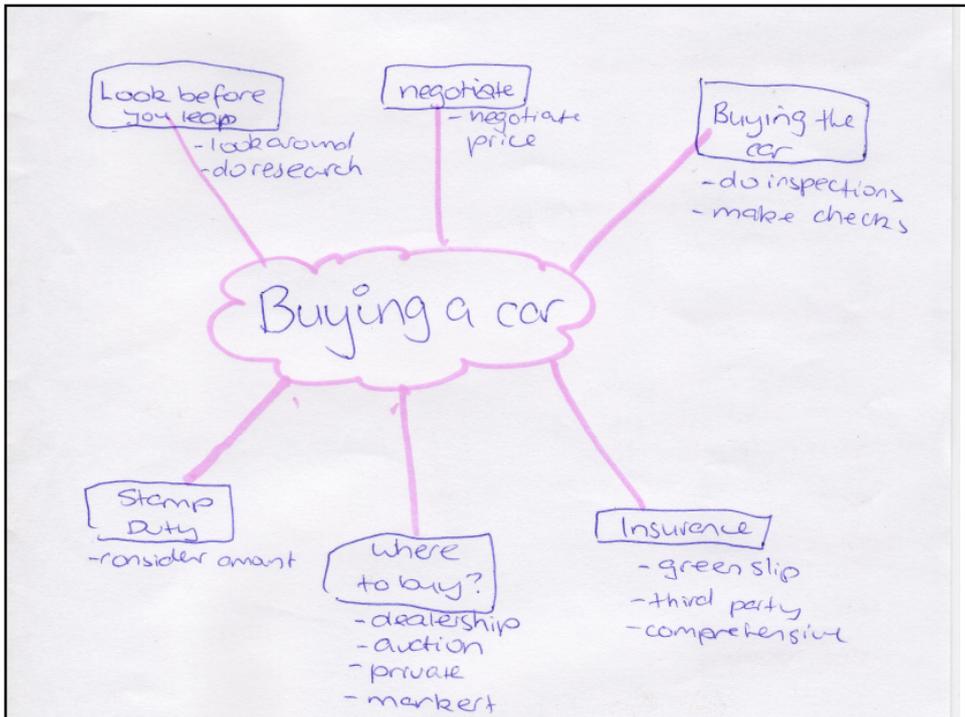
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Which do you think are best?

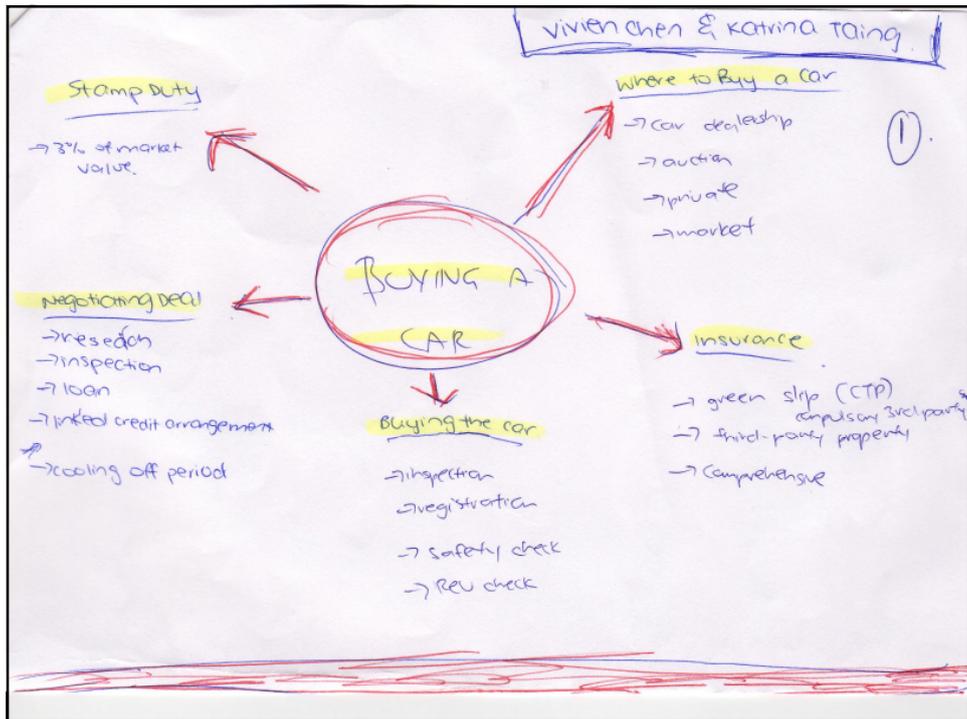
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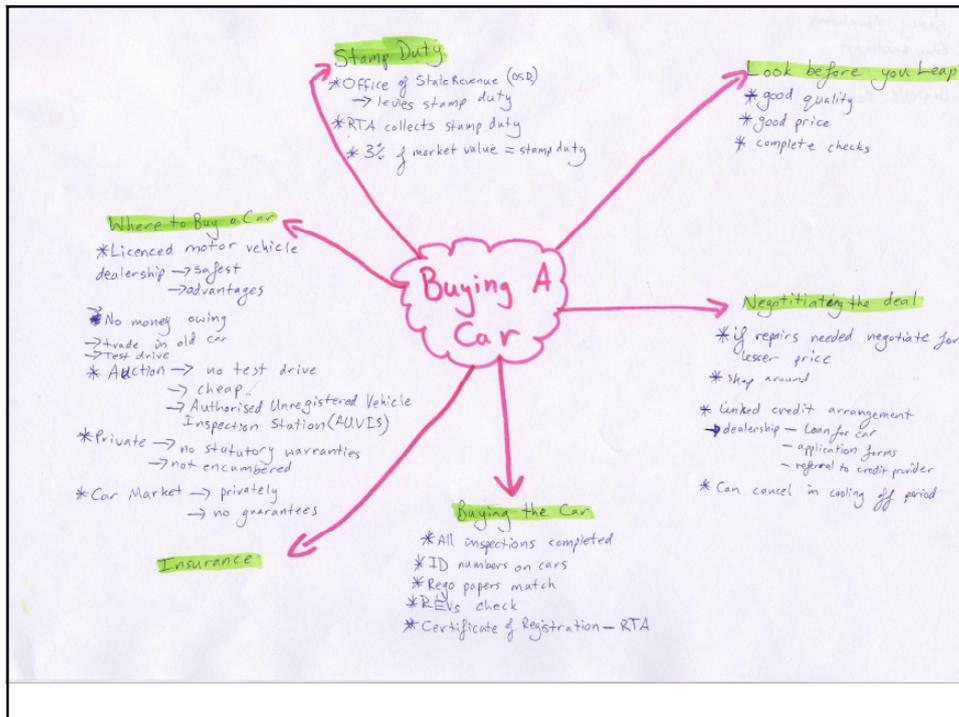
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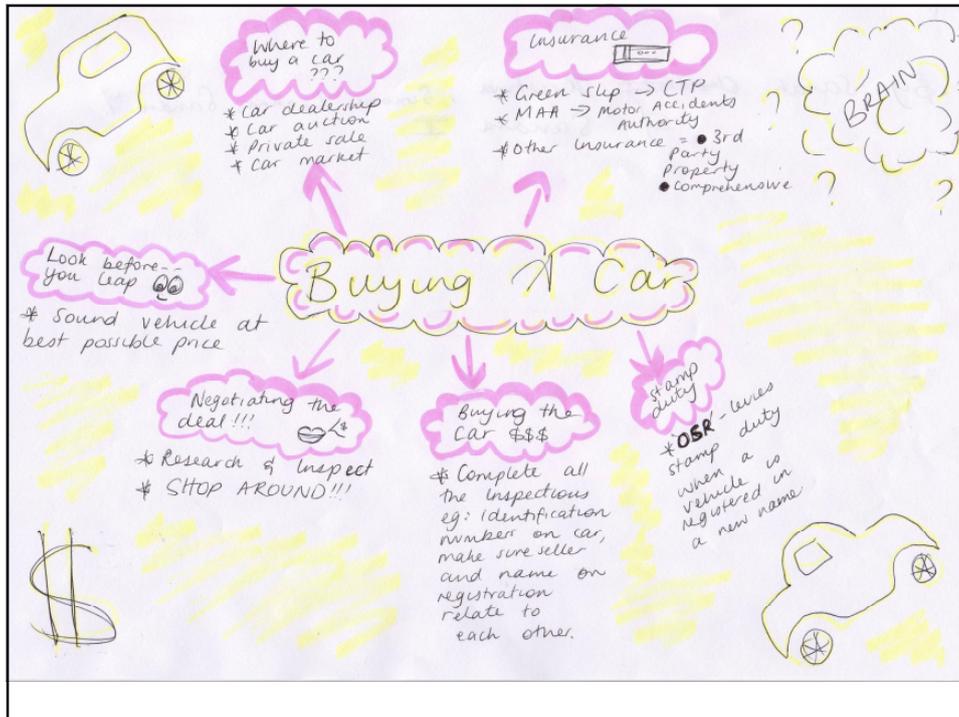
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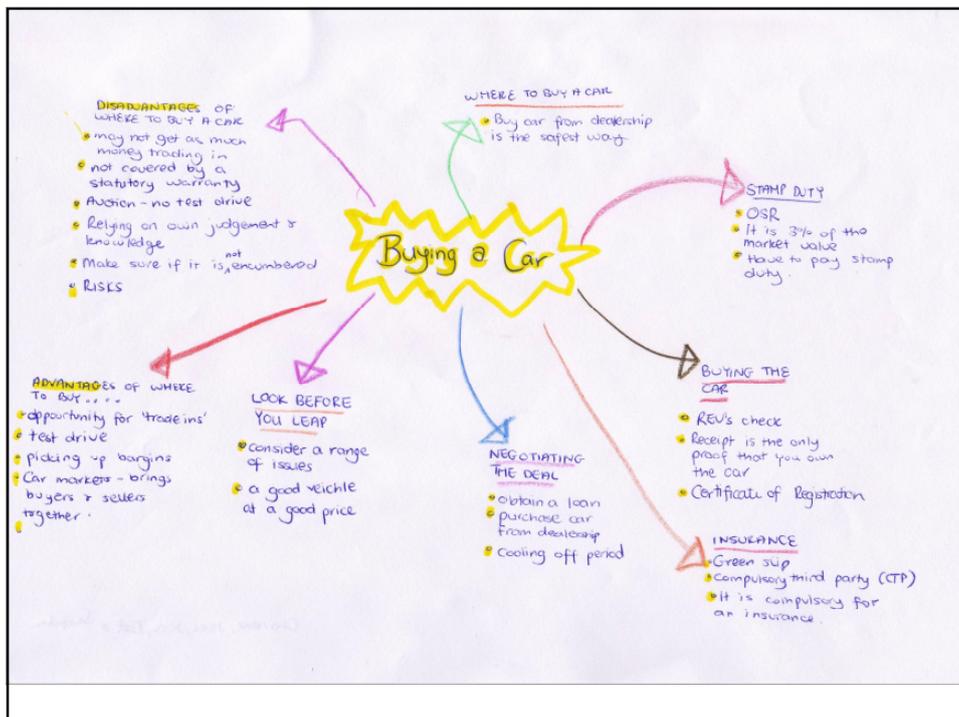
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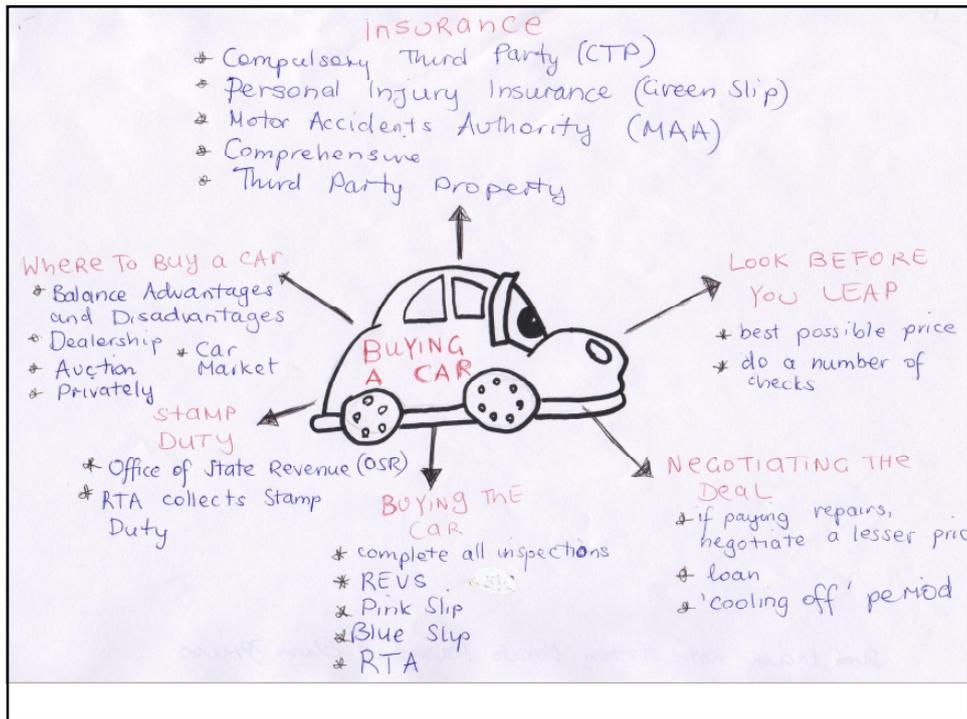
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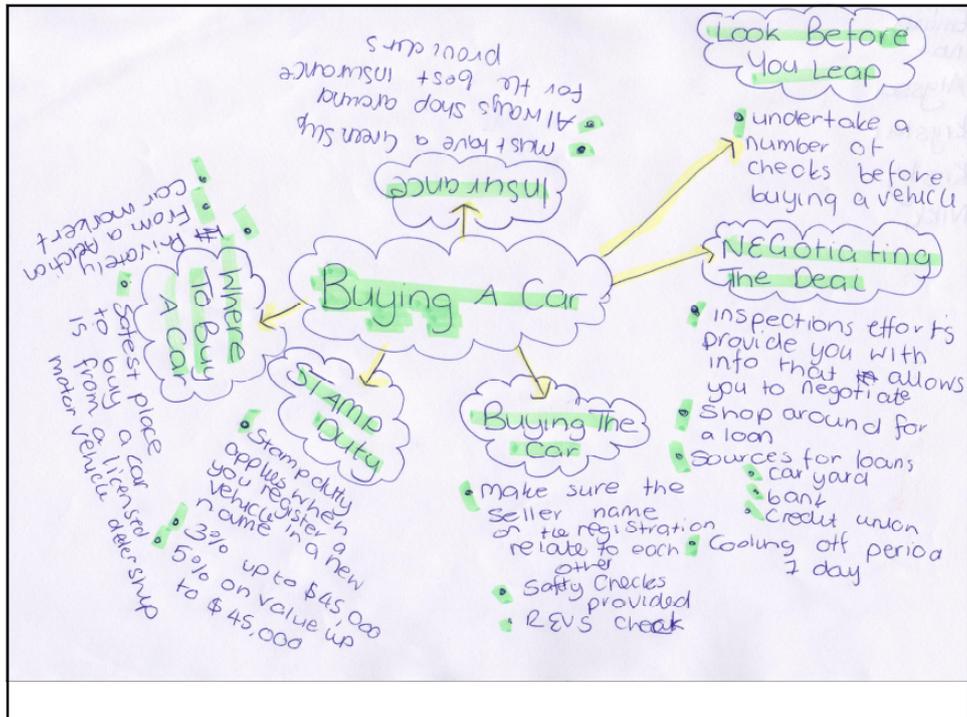
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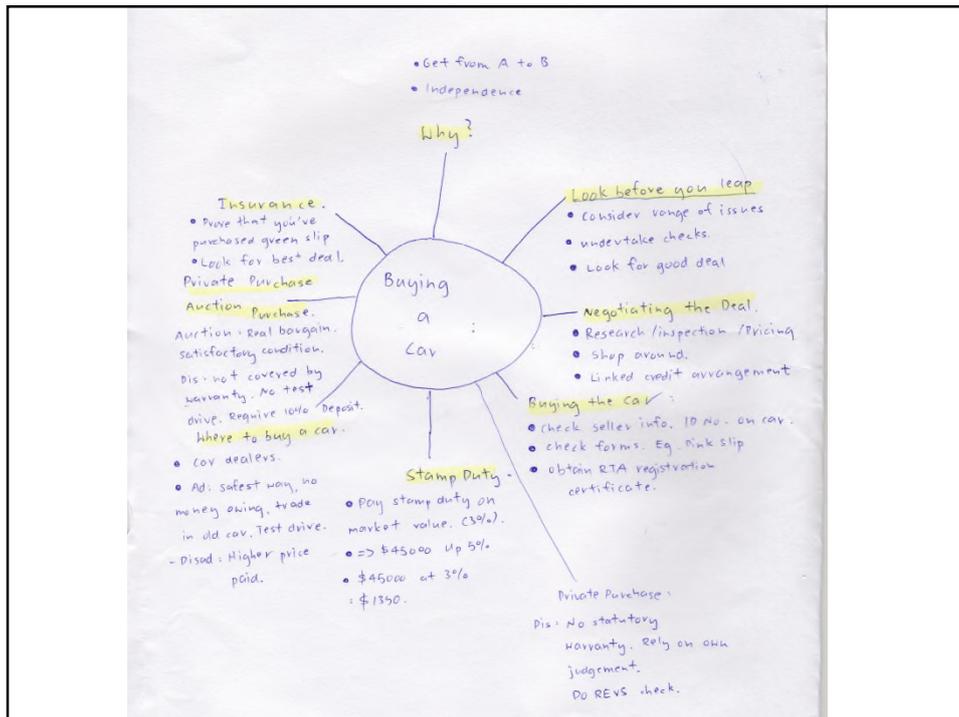
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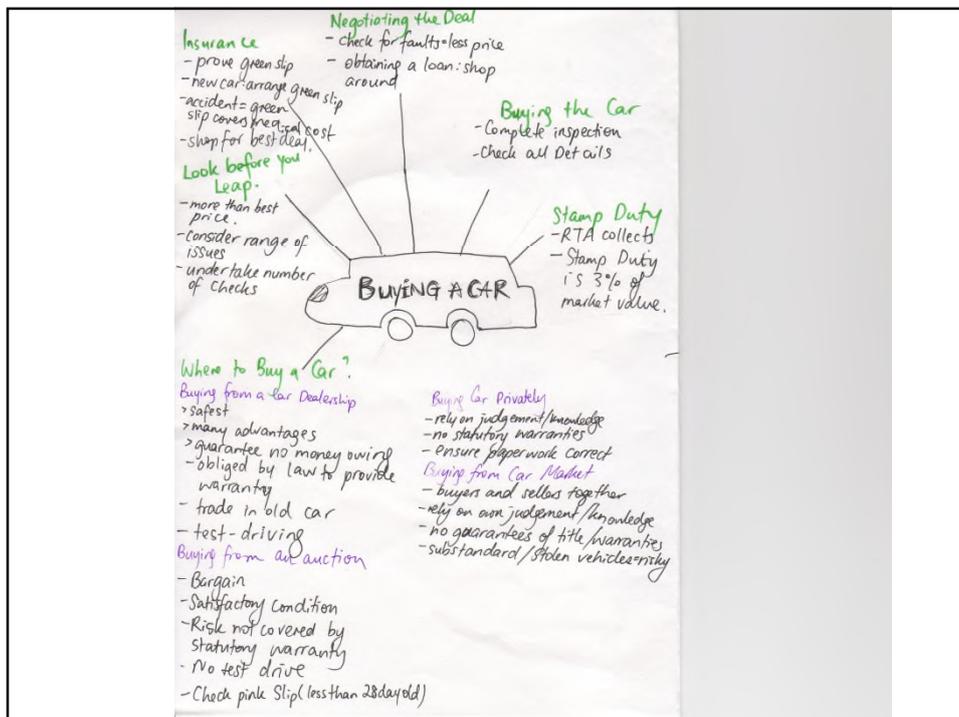
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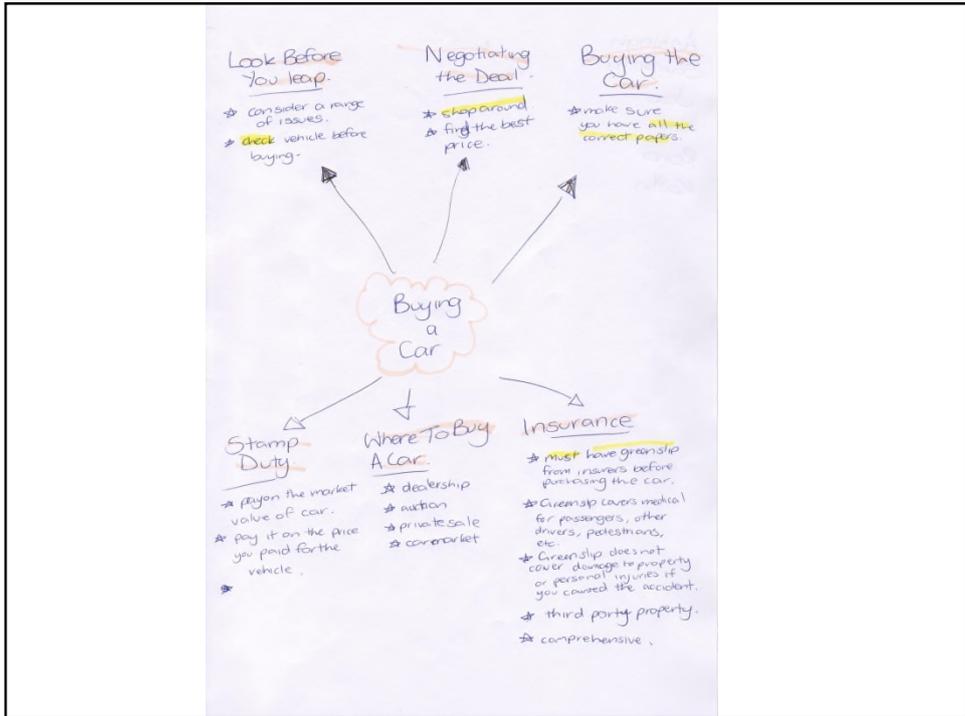
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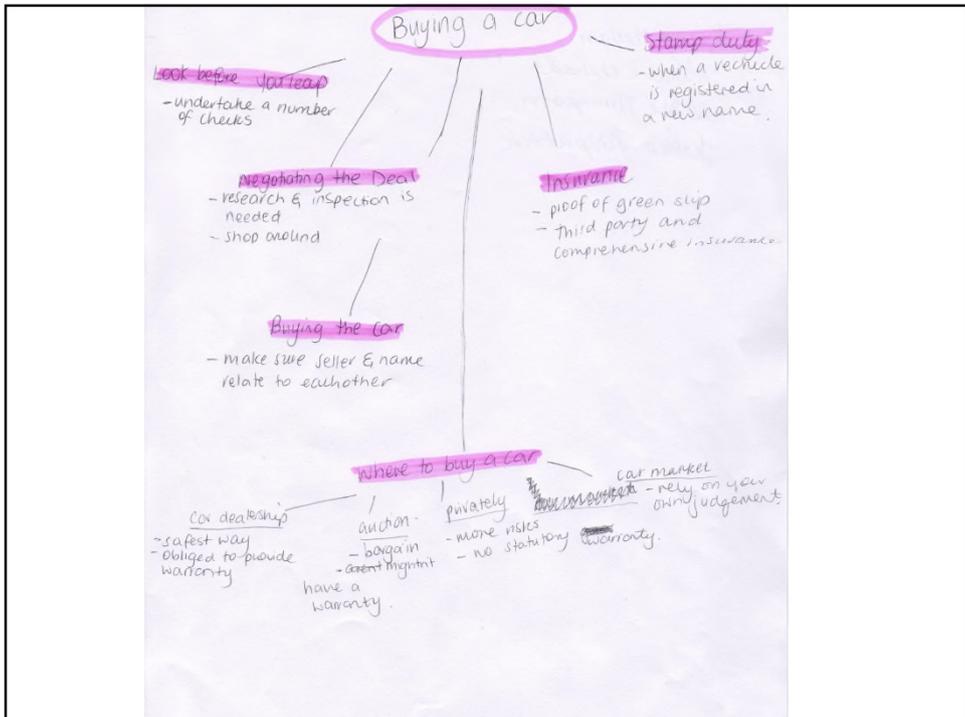
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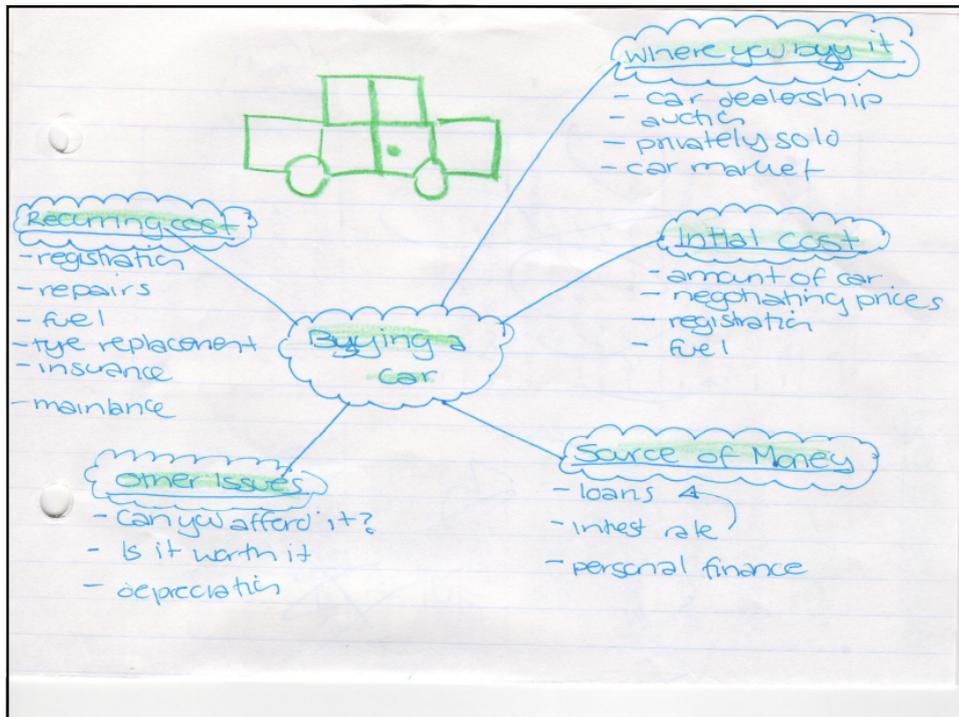
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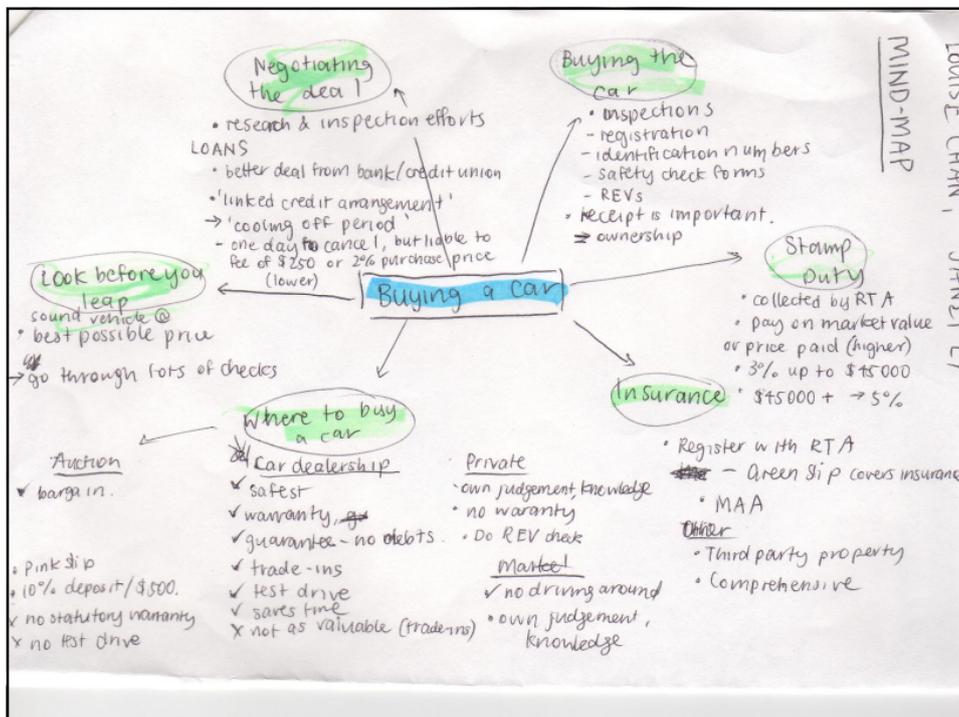
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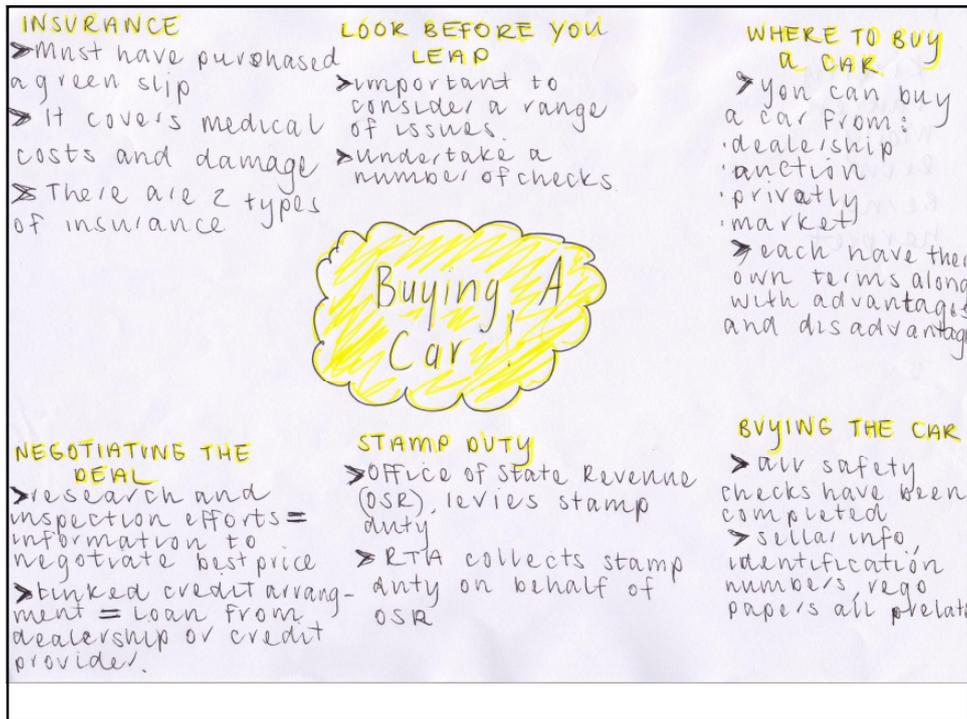
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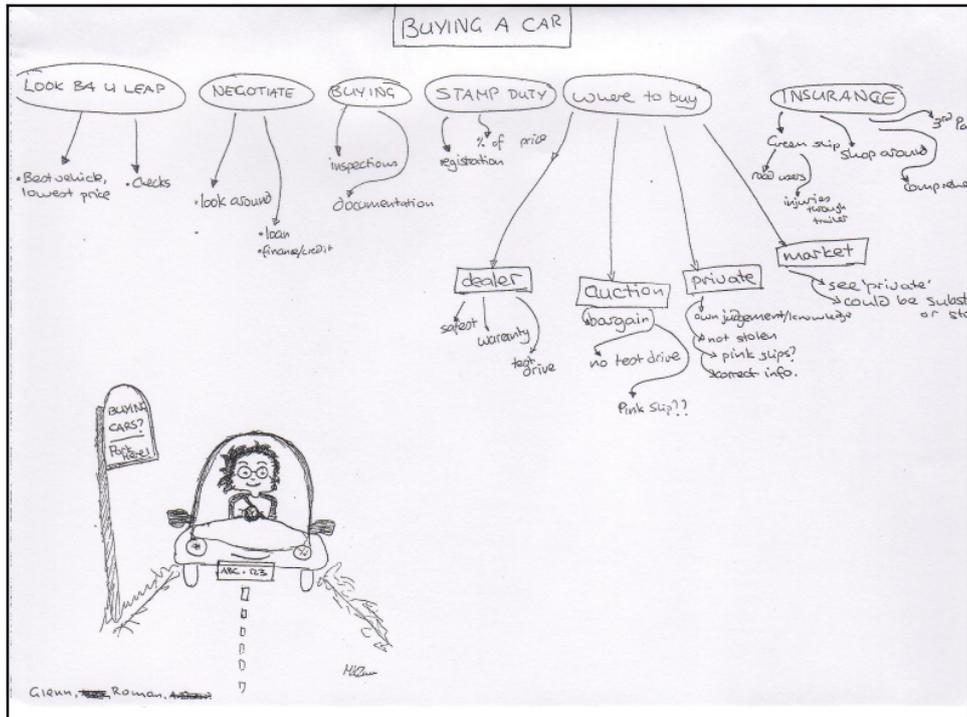
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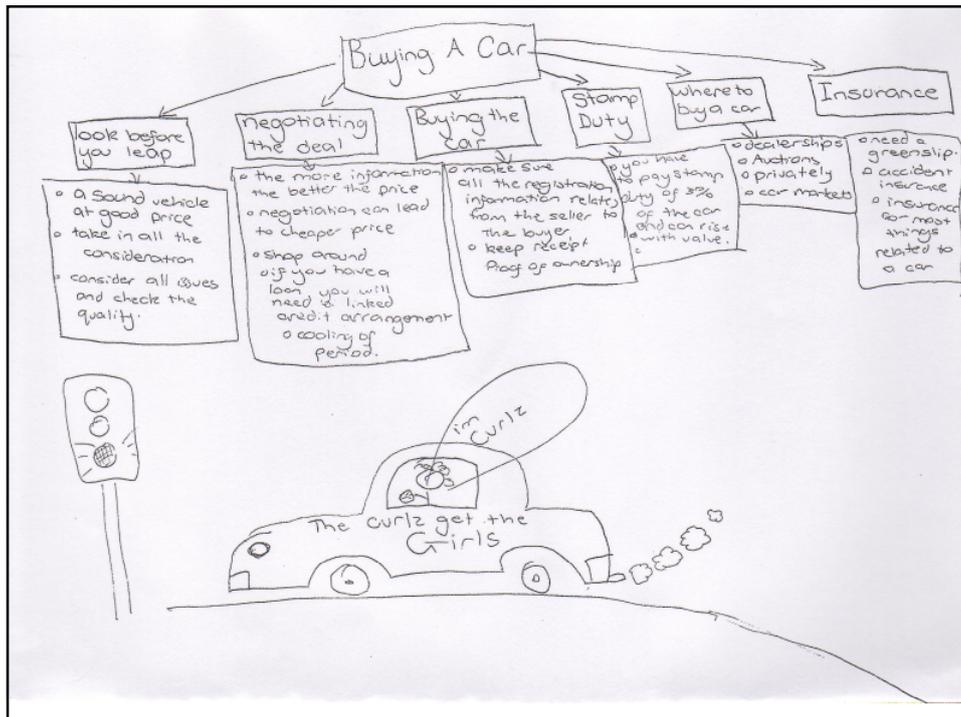
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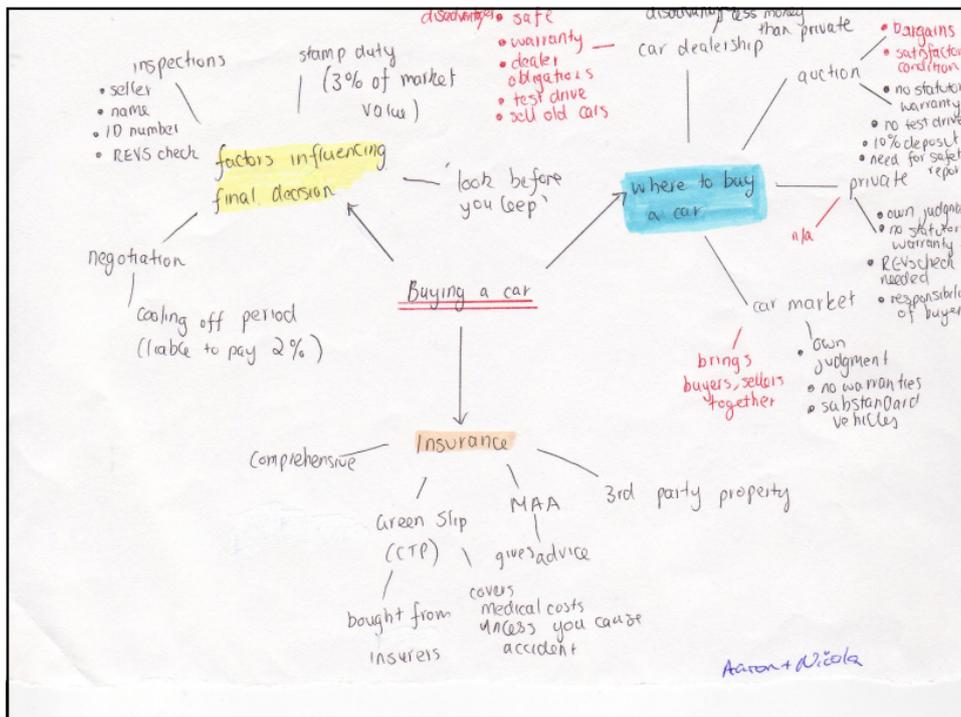
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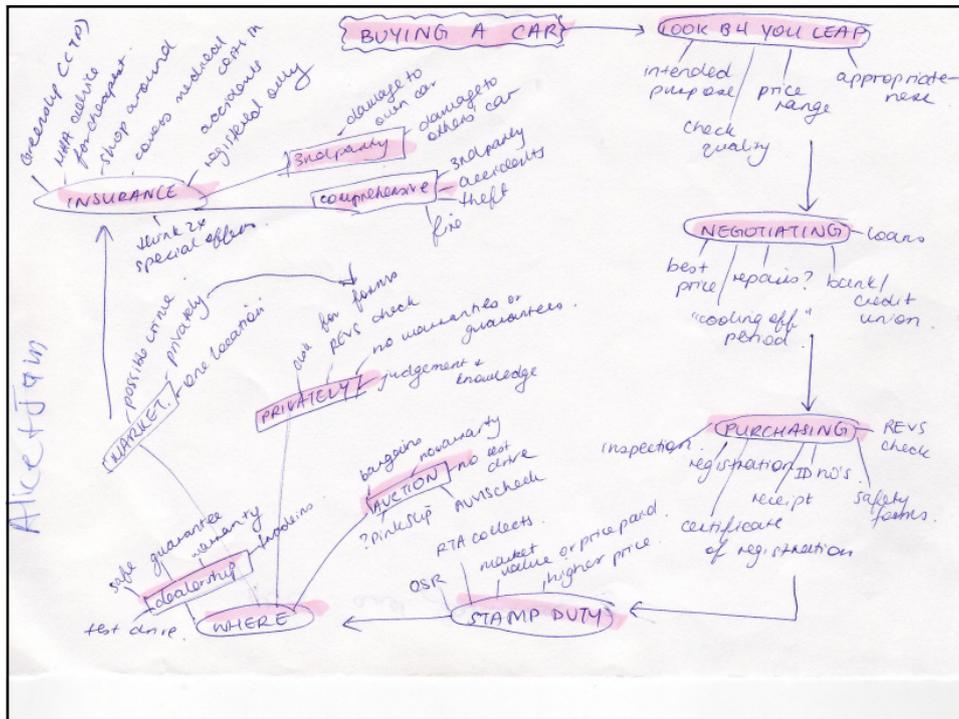
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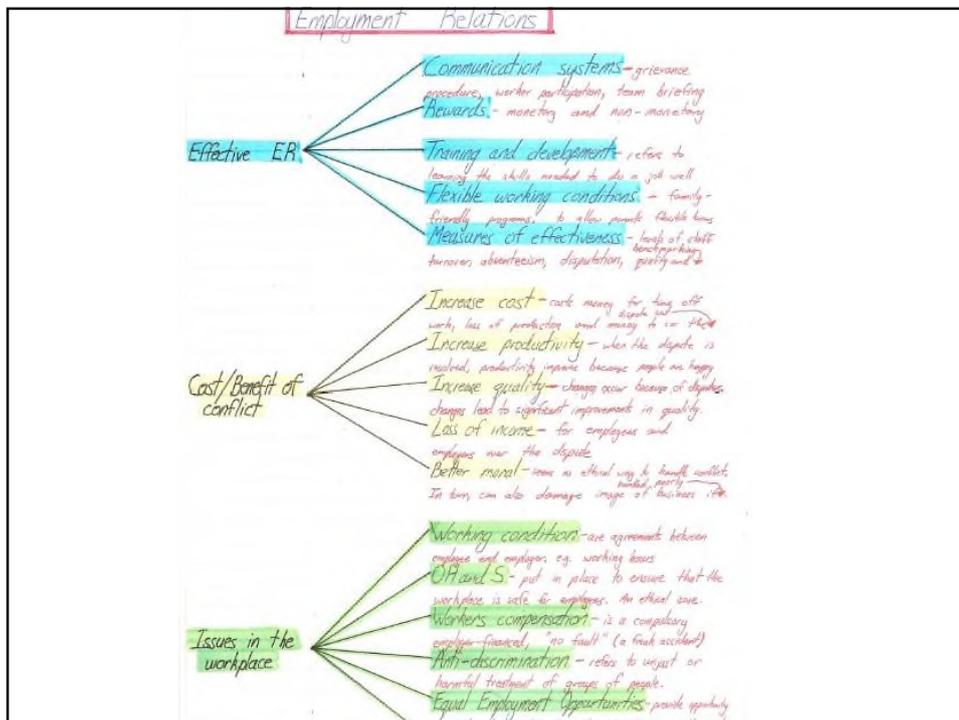
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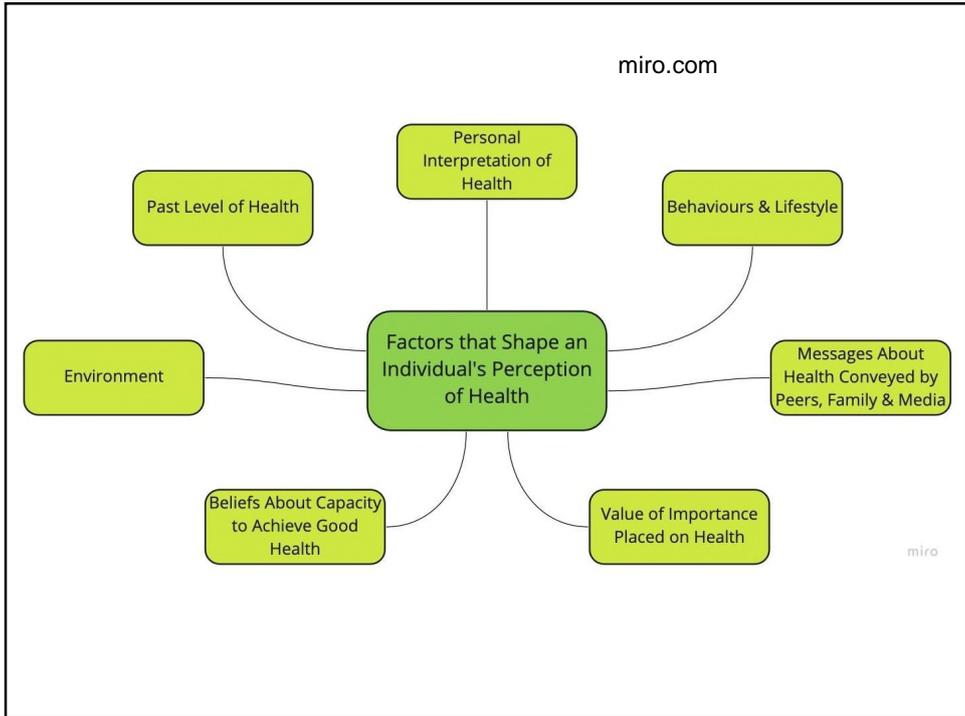
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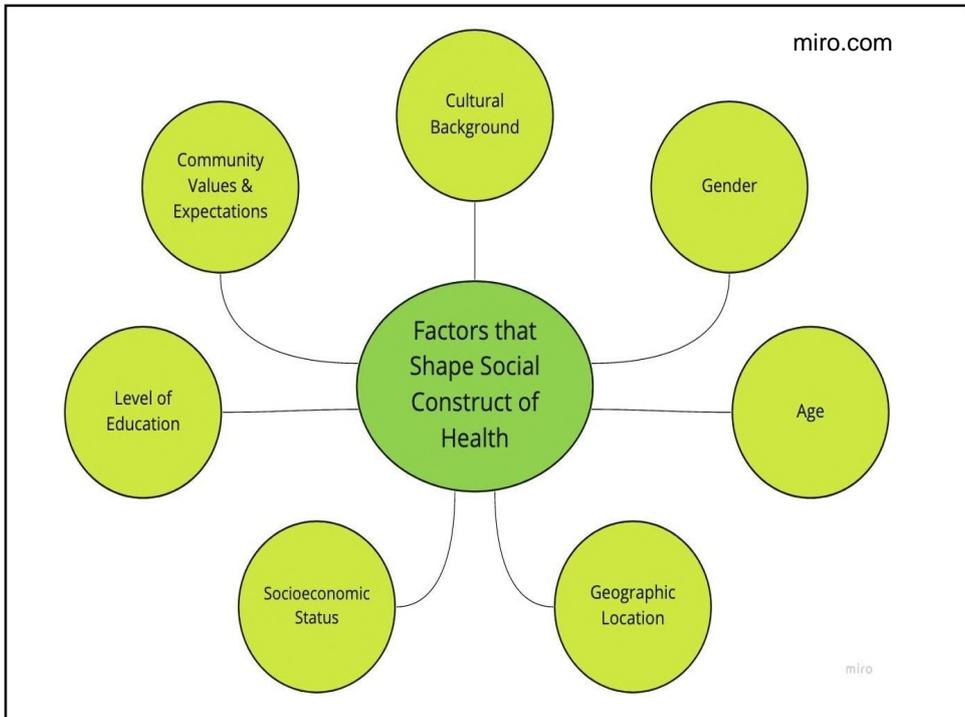
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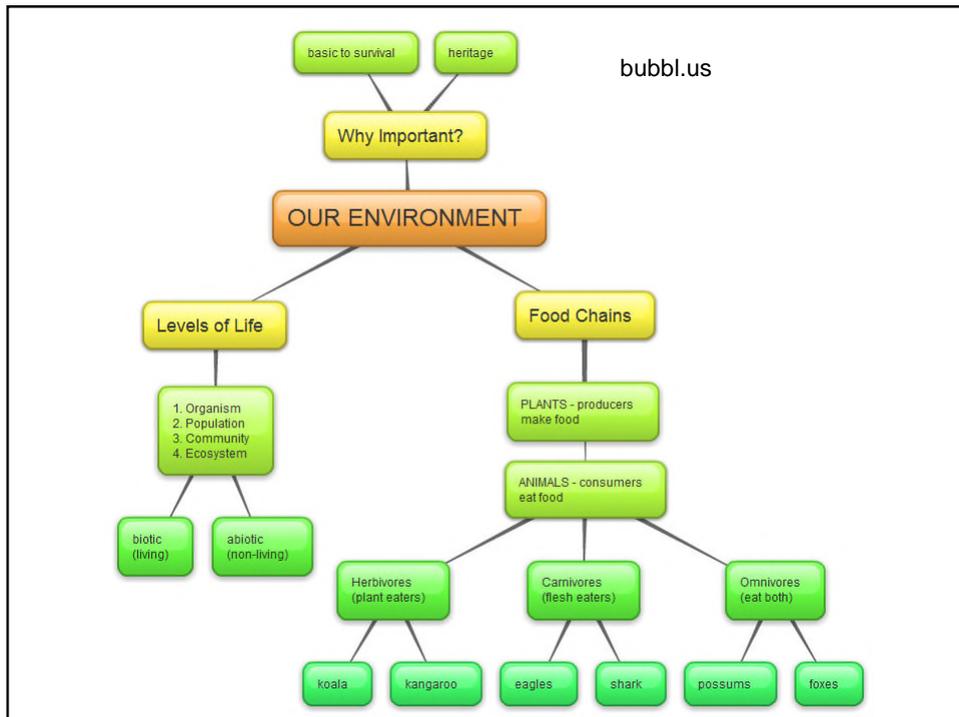
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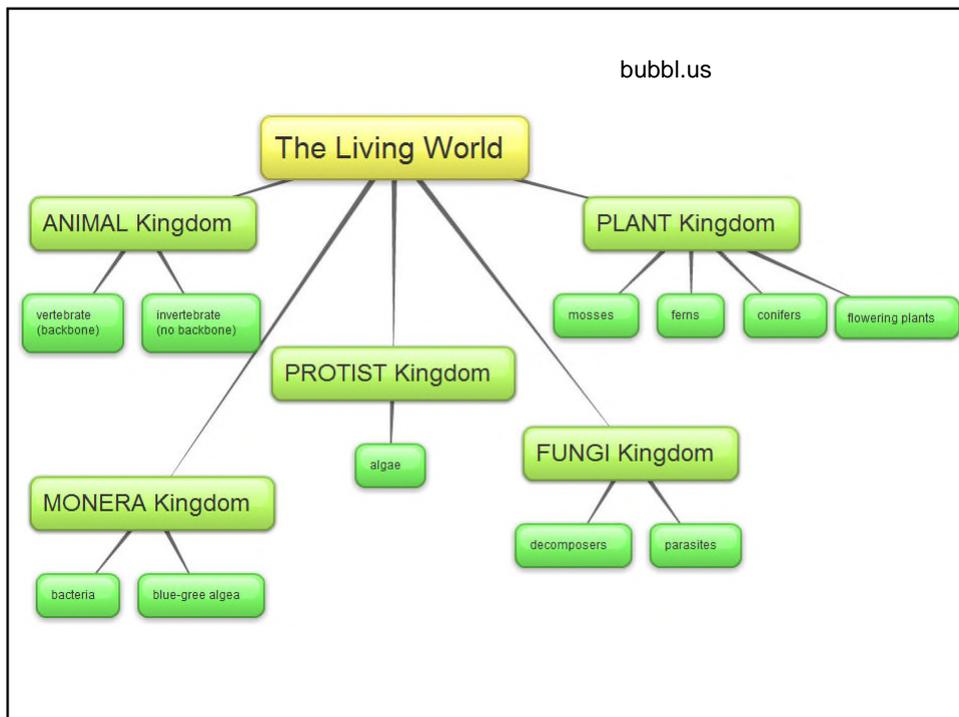
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# LINEAR NOTES

## To make a summary:

1. Include all you need to know.
2. Refer to all material.
3. Group and chunk information.
4. Key information in point form.

## Good summaries are:

- an overview of the topic
- comprehensive
- memorable
- easy to review
- flexible
- a test of understanding

### Linear Notes

Concise outline notes

Use numbering

Use lists to order info

Can be used with all subjects



175

All animals are members of the Kingdom Animalia, also called Metazoa. All members of the Animalia are multicellular, and all are heterotrophs (that is, they rely directly or indirectly on other organisms for their nourishment). Most ingest food and digest it in an internal cavity.

Animal cells lack the rigid cell walls that characterize plant cells. The bodies of most animals (all except sponges) are made up of cells organized into tissues, each tissue specialized to some degree to perform specific functions. In most, tissues are organized into even more specialized organs. Most animals are capable of complex and relatively rapid movement compared to plants and other organisms.

Somewhere around 9 or 10 million species of animals inhabit the earth; the exact number is not known and even our estimates are very rough. Animals range in size from no more than a few cells to organisms weighing many tons, such as blue whales and giant squid. By far most species of animals are insects. By this measure our own group, the vertebrates, is relatively inconsequential.

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# ANIMALS

## Members of Kingdom Animalia ('Metazoa')

- multicellular
- lack rigid cell walls in plants
- bodies made of cells (then organised into tissues then organs): except sponges
- heterotrophs (rely on other organisms for nourishment)
- capable of complex & rapid movement
- approx 9-10 million species
- range in size from a few cells to large whales
- biggest group is insects
- our group – invertebrates, fairly small

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**1. ANIMALS** → organisms EAT other org for  $\begin{cases} \text{energy} \\ \text{materials for} \end{cases}$   $\begin{cases} \text{growth} \\ \text{movement} \end{cases}$

→ all "multi-cellular" org.

→ live on land, in sea, fresh water, some can fly

**\* VERTEBRATES**

- all large land animals are vert.
- bone system gives support to live on land
- largest = blue whale (36m, 170 tonnes)  
(water helps support weight)

---

**2. PLANTS** → multicellular organisms

→ contain **chlorophyll** ∴ can use sun as energy source

eg  $\text{CO}_2 + \text{H}_2\text{O} \xrightarrow{\text{energy}} \text{Sugars} + \text{Oxygen}$  C

→ largest: **maintain ash of SA** > 100m in height

→ oldest living org: **Californian redwood**, lives > 4000 yrs

**\* GROUPS**

- mosses
- ferns
- conifers
- flowering plants

---

**3. FUNGI** → eg **mushrooms, bad stools, bread mold, yeasts**

→ no chlorophyll ∴ can't make own food

→ sources of food: **graazing on dead plants or animals** "decomposers"

178

**1. ANIMALS** → organisms EAT other org for energy materials for growth & movement  
 → all "multi-cellular" org.  
 → live on land, in sea, fresh water, some can fly

**2. PLANTS** → multicellular organisms  
 → contain chlorophyll 2. can use sun as energy source  
 $CO_2 + H_2O \xrightarrow{\text{energy}} \text{Sugar} + \text{Oxygen}$   
 → largest: sequoia tree of CA > 100m in height  
 → oldest living org: Calliparis tree of CA, 1100 > 4000 yrs

**3. FUNGI!** → eg mushrooms, bread mold, yeast  
 → no chlorophyll ∴ can't make own food  
 → sources of food: growing on dead plants or animals (release chemicals to break it down)  
 → reproduce by spores (in caps or bulbs which stick up)  
 → parasitic (get part living things eg ringworm, mildew)  
 → saprophytic (take nutrients from the org)

**4. MONERANS** → simplest cell structure of all living things  
 → microscopic unicellular (cell has no distinct nucleus)  
 → eg bacteria, blue green algae  
 → help as can break down dead plants & animals, break down wastes, return simple substances to the air, soil & water  
 → some bacteria cause disease  
 → some bacteria cause disease

**5. PROTISTS** → most unicellular, most live in water  
 → eg algae (some of these are multi cellular)  
 → like plants, have chlorophyll so can photosynthesize  
 BUT much simpler structure than plants

**As tests are still handwritten:**

1. Handwriting study notes on paper is best to set up muscle memory.
2. Next best is writing on a tablet – but is not exactly the same physical experience as writing on paper.
3. Typing is the least preferred. Handwrite your study notes as much as possible.

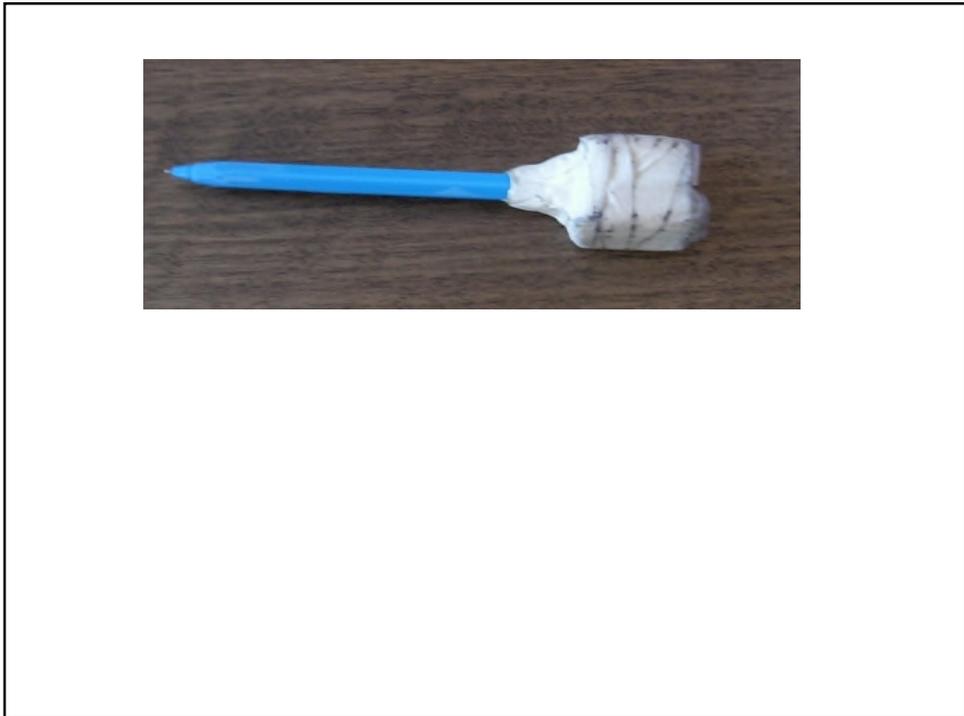
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**OneNote / Evernote / PowerPoint / GoodNotes**

The screenshot shows a software interface with a calendar at the top and a PowerPoint slide below. The slide is titled 'Umorganisation der Automotive Supply Chain' and features a diagram of a supply chain. Handwritten annotations include 'Highlight stuff!' with a red arrow pointing to a highlighted area on the slide, and 'Take notes on PowerPoint slides' with a white circle around a specific part of the diagram.

- Hyperlink to web pages, cut and paste from webpages
- Have different pages and folders
- Include multimedia, do audio and video recordings
- Link inside your notes to other parts of your notes, create tags
- Search your notes for phrases etc.
- Create to-do lists

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## Ring Pen ORIGINAL

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183



## Ring Pen ULTRA

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184

<http://www.pencilgripsplus.com.au>

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[www.writeweight.com.au](http://www.writeweight.com.au)

*All work on the principle of attaining the most optimal position for the finger/hand/wrist muscles to handwrite and therefore reduce early onset fatigue and pain.*

185

## Find your soul mate pen!

186

## SUMMARY:

- Maths and Languages do every day and in A4 books. For other subjects use paper and put in a folder at home.
- Usually you do study notes for that subject if there is a test coming up and the information is across lots of places, or you need to condense the information to make it easier to learn.
- However if you don't have homework, you can make mind maps for these subjects or get a head start on your point form Cornell study notes rather than wait until exam time.



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## Questions

- What are study notes?
- Why do we do them?
- How are do these differ from other revision?
- When should you do notes?
- What are some different styles of note-making?
- What do you use as the source material for the summaries?
- How can you make study notes easier to learn?
- Should you make a 'summary of your summary'?
- Should you handwrite or type your notes?

188

## Working Together....

- Your parents should be able to pick up your study notes and get a clear picture of what you have covered so far.
- Agree on a day to spend 10-15 minutes showing your parents your notes. Make this a regular activity?

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## Studying Effectively (Page 8)



190

# How The Brain Works



*On Page 8 in the first box write down something your brain is very good at*



191

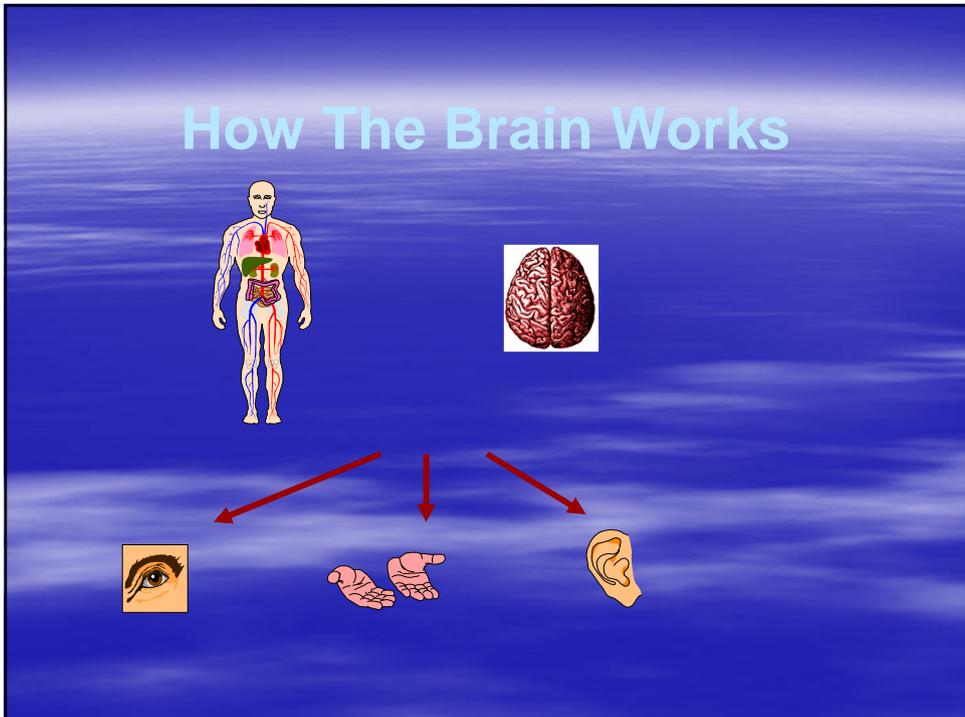
# How The Brain Works



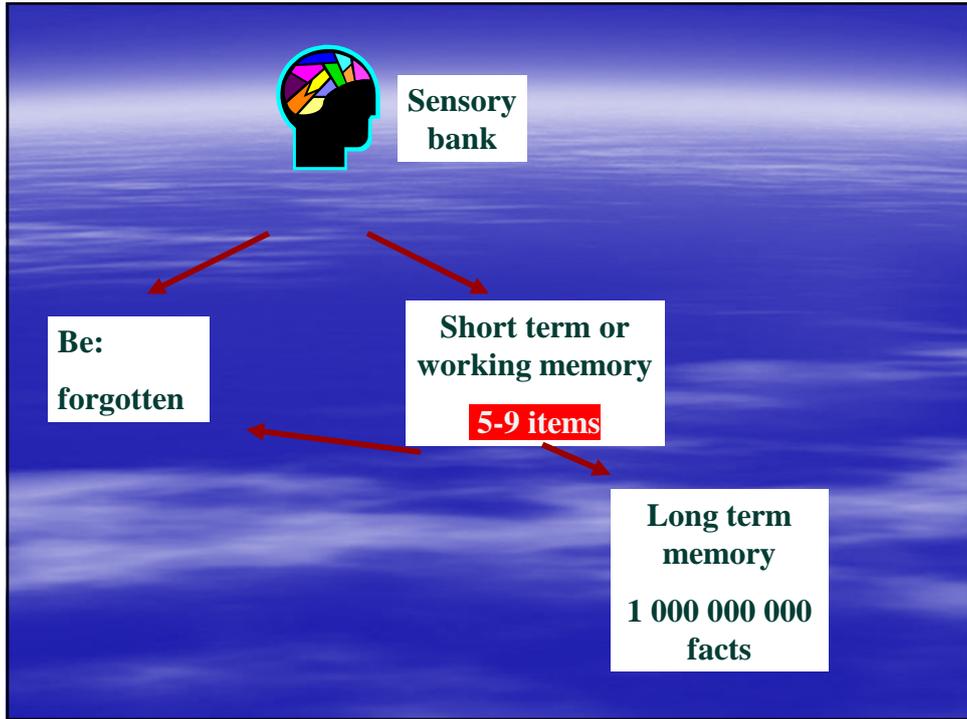
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## Tips to Improve Examination Techniques

196

**1. When in exams should you use pencil and why?**

**Diagrams only**

197

**2. What does looking at the marks a question is worth tell you?**

**How much info is needed...**

**How much time to spend...**

198

**3. *Why should you not use liquid paper?***

**Wastes time**

**Forget to rewrite**

**May have been right!**

199

**4. *Why do you need to write neatly?***

**To help examiner find you marks!!**

200

□ *5. If there are formulas you think you might forget, what should you do?*

□ **Write down as soon as you are allowed**  
(but only the main ones!)

201

□ *6. How can you make sure you don't run out of time?*

□ **Allocate time before you start**  
□ **Put watch in front of you**  
□ **Don't spend too long on one question.**

202

7. *Which questions should you do first in exams?*

**What works best for you?**

**Easy questions first?**

**Start to finish?**

203

8. *If you finish early, what should you do?*

**Check and check again.**

204

□ *9. If you are running out of time what should you do?*

□ **Do the questions you can get the most marks in.**

205

□ *10. What should you do at the start of an exam?*

□ **Read through the instructions and look through the whole paper.**

206

□ *11. What should you do if you have a mental blank?*

□ **Leave it and come back later**  
(let subconscious work on it).

207

□ *12. What can you do if you get stressed in an exam?*

□ **deep breathing, relaxation, flex fingers, reposition self, repeat 'relax' to self**

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# Exam Techniques



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# Good Techniques



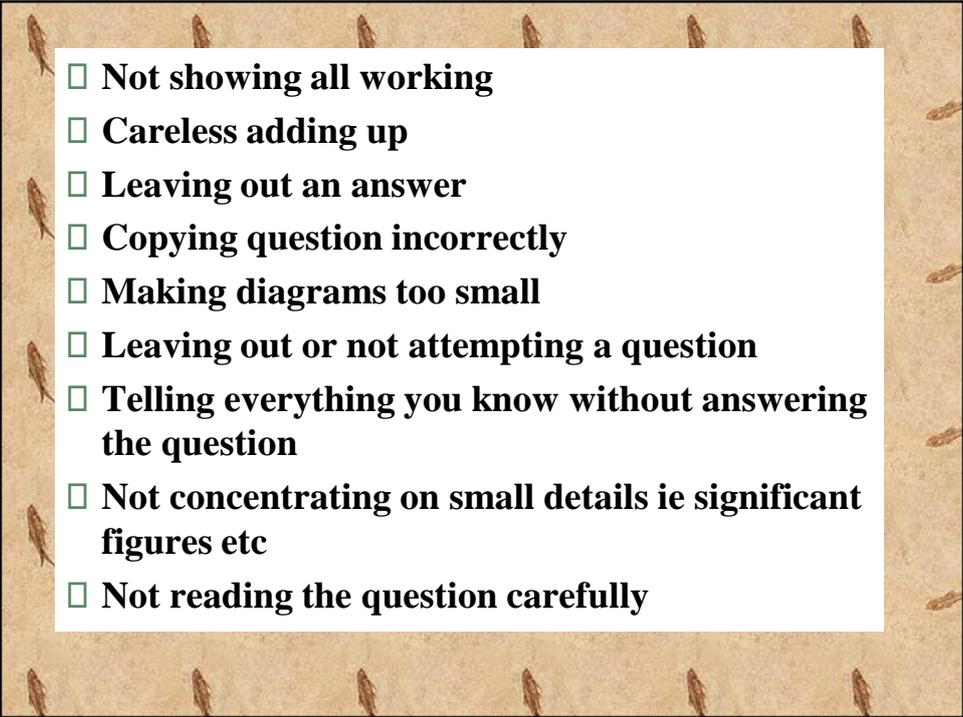
210

- ❑ At the start of the exam, **read all instructions carefully** and look through the whole paper, plan answers
- ❑ **Memory dump** at start if necessary
- ❑ Look at **how many marks** the question is worth to see how much you need to write and how many points examiners want
- ❑ Do **large diagrams** and use pencil for them
- ❑ Don't waste time using liquid paper
- ❑ Keep to your time, **don't get bogged down**
- ❑ Write **neatly** so it doesn't seem disjointed
- ❑ When you finish, **check and check again**

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## Common Mistakes

212

- 
- Not showing all working**
  - Careless adding up**
  - Leaving out an answer**
  - Copying question incorrectly**
  - Making diagrams too small**
  - Leaving out or not attempting a question**
  - Telling everything you know without answering the question**
  - Not concentrating on small details ie significant figures etc**
  - Not reading the question carefully**

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## **Planning Responses**

214

### Why should you plan your responses?

- You don't have time to do a draft first.
- If you do not plan you may talk in circles without a logical flow.
- You might miss out on important things you should have written.
- You might end up not focusing on answering the question.
- You will probably end up writing about things that should not be included (ie waffling).

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- Read the question carefully.
- Read it again highlighting key terms and crucial information.
- In your head, try and rephrase the question in your own words.
- On a piece of scrap paper or on the back of your exam paper, jot down your first thoughts about what the question is asking you.
- Brainstorm the key things you will want to cover in your answer.
- Keep referring back to the question, are you actually answering the question?
- Where you have brainstormed your thoughts, join ideas that should go together with a line.
- Then go through and number what order you will address each idea, you might even break your ideas into specific paragraphs.
- Look through your order of ideas and make sure they make sense, that there is a logical flow, a coherent argument and that you are answering the question.

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## ***Reflective Questioning***

- 1) Ask her "Which part do you know for sure?" or "Which part do you understand?" to establish a baseline of understanding.
- 2) Or ask her "If you did know, what would you say?"
- 3) Tell her "help me understand." This gets her to explain to you the method, reason or example so you can see where her understanding is breaking down.
- 4) Ask her to "tell me more". (Use this when she answers with a brief response but try not to prompt her with the correct information *that you may know*)
- 5) Ask her "Why?" (Ask this question to help her elaborate on her response. Try to do this without giving non-verbal clues about whether her response is correct as she is giving it.)