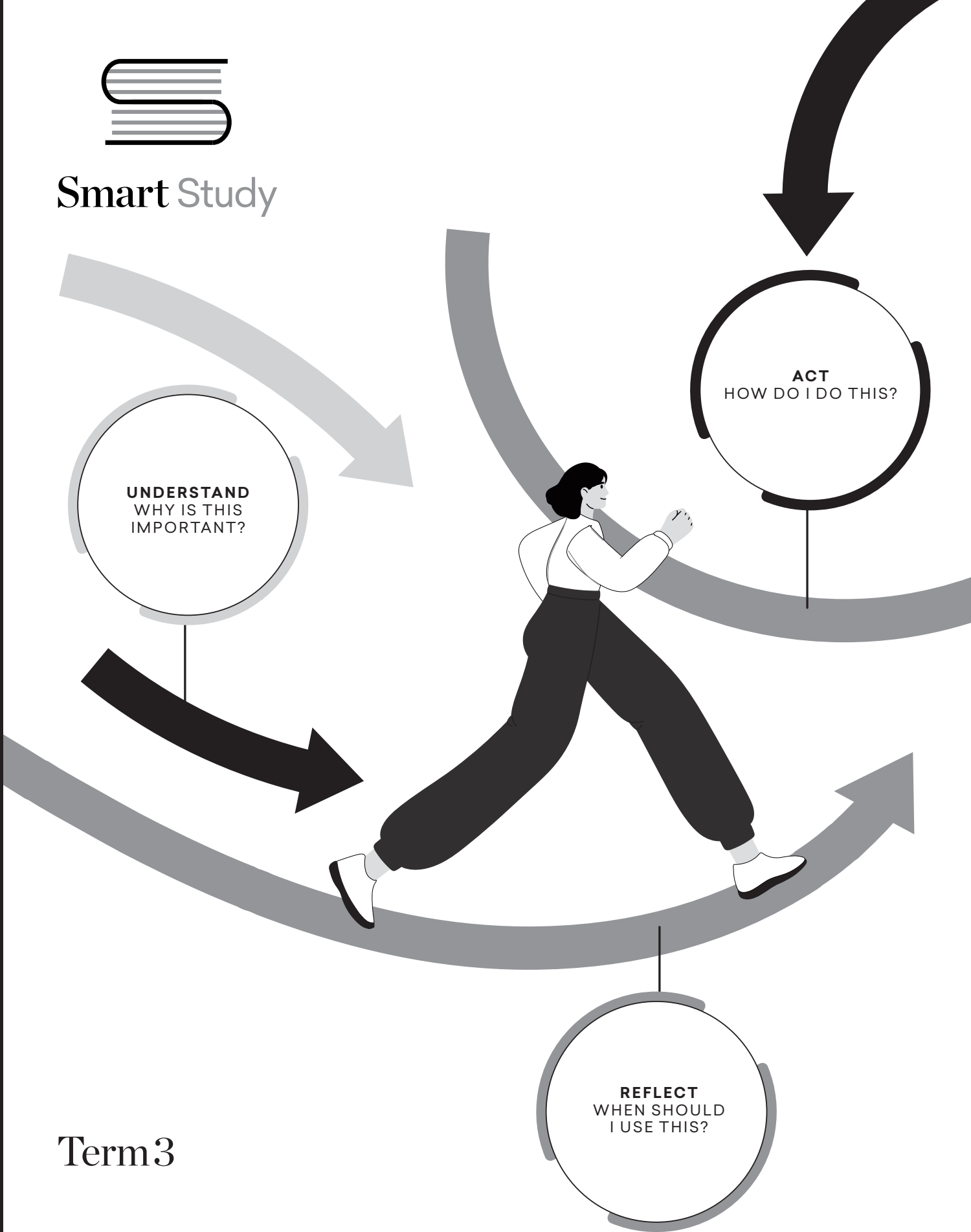


Smart Study



Term3

NAME

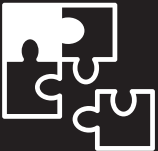
TUTOR GROUP

TUTOR

Developed in partnership with:



UNDERSTAND



Research about psychology has a lot to tell us about the behaviours, attitudes and habits that lead to effective study and long-term learning.

ACT



To be successful learners, we need to act on our understanding, try new things and shift old habits that are holding us back from being effective.

REFLECT



Reviewing what works and why is a powerful tool for monitoring study and learning, helping us to improve or refine the strategies we use.



Focus (Tutor session)
PAGES 8, 38 – 39

**Student Advisory
Feedback & Revision**
Student-led session

Retrieval Practice
CORNELL NOTES PRACTICE
PAGES 24 – 25
Group Tutor session

Retrieval Practice
CORNELL NOTES
PAGES 24 – 25

**Flash Cards
& Tech Tools**
PAGES 26 – 27

Flashcards Practice
EXAMINATION PLANNING
PAGES 8, 38 – 39
One-to-one Tutor session

Interleaving
DESIRABLE DIFFICULTY
PAGE 7

Directive terms
EXAMINATIONS

Organisation & planning
EXAMINATION PLANNING
PAGES 14 – 15, 40 – 45
One-to-one Tutor session



WEEK 1

WEEK 2

WEEK 3

WEEK 4

WEEK 5

WEEK 7

WEEK 6

WEEK 8

WEEK 9

WEEK 10

The chief task in life is simply this:
to identify and separate matters so
that I can say clearly to myself which
are externals not under my control,
and which have to do with the
choices I actually control.

Where then do I look for good and evil?
Not to uncontrollable externals,
but within myself to the
choices that are my own...

EPICTETUS, DISCOURSES, 2.5.4-5



Introduction

This is a quotation from the Stoics; the name derives from the porch (stoa poikilê) in Athens where members of the school congregated for lectures and learning. Essentially, proponents of the philosophy believe that wisdom stems from the ability to differentiate between that which we cannot change and that which is within our power to influence. This type of wisdom offers us good sense, good judgment, quick-wittedness, discretion, and resourcefulness, all values essential to individual and collective wellbeing.

The colloquial use of the word stoic is equivalent to what contemporary psychologists refer to as naïve optimism: gritting one's teeth and ignoring the circumstances in order to weather the storm. But, for all their faults, the Stoics encouraged a far more effective practice. They considered their philosophy to be an exercise (askêsis), or what contemporary psychologists call wise optimism.

This is how you practice wise optimism:

- **Reflect** on your current circumstances;
- **Identify** circumstances that you cannot change and circumstances that are within your power to influence;
- **Consult** with those who are known to be honest and wise on the topic; and
- **Act** to improve your circumstances by taking considered steps to adjust your actions, attitudes, or your treatment of others, to bring about positive change.

There is substantial research that routinely engaging in this practice improves productivity and motivation.





High & low utility strategies

Researchers looked at the impact of different study strategies used by students. Generally, they found some strategies were far more effective – minimum input for maximum output.

Low utility

- Summarising
- Highlighting
- Mnemonics
- Use of imagery for text learning
- Rereading

Medium utility

- Elaborative interrogation
- Self-explanation
- Interleaved practice

Maximum utility

- Practice testing
- Distributed practice

They observed that the majority of students practised content they already knew because it required less cognitive effort but still made them feel productive. Students who made the most progress targeted areas of weakness and used high utility strategies, strategies often requiring less time but more cognitive effort.

It's a bit like going to the gym and doing light weights because they're easy and you feel productive, but to really increase strength, you need to gradually lower the reps and increase the load.

Dunlosky, et al., 2013
Improving Students' Learning With Effective Learning Techniques

Which study strategies do you use?

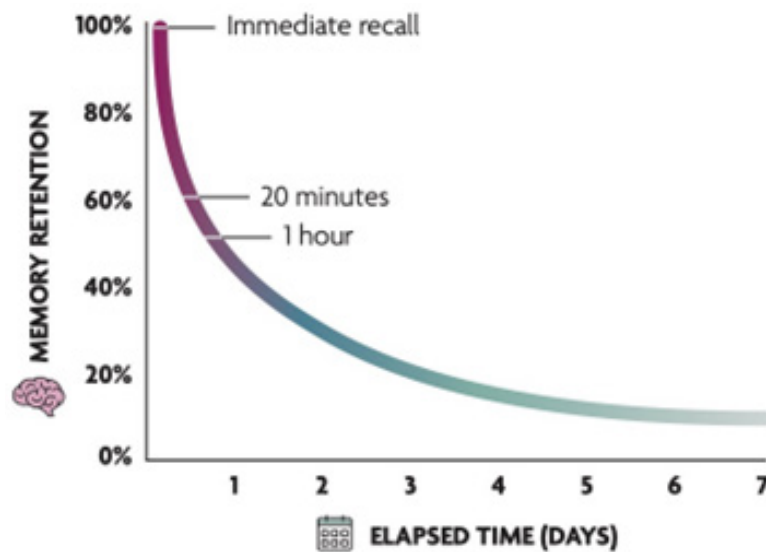
Which study strategies to you currently use? Why?

Which strategies should you use? Why?

When you study, do you think you target areas of academic strength or weakness ?

The Forgetting Curve

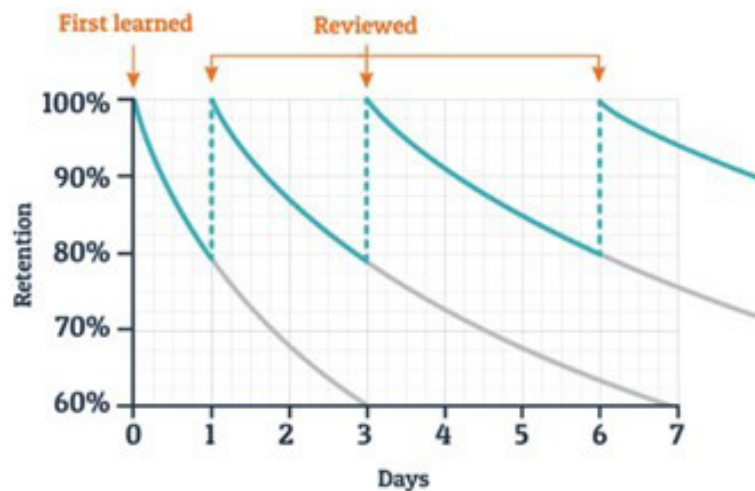
This curve demonstrates how information you learn is lost over time if there is no attempt to review or re-learn. Other factors that affect memory include: memory strength; how meaningful the material is; and physiological factors such as stress.



<https://organisingstudents.com.au/2021/07/the-forgetting-curve/>

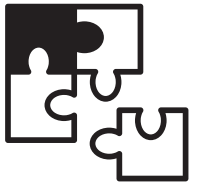
Improving Your Memory

Studies have shown that spacing your study will help you memorise information. The time when forgetfulness occurs is immediately after the class, on the evening of the class, the next day, the next week, the next month, and so on. Thus, it is suggested that your review content as follows: right after the lesson, the evening of the lesson, one week later, and one month later. These repeated reviews will help you retain information over the long term.



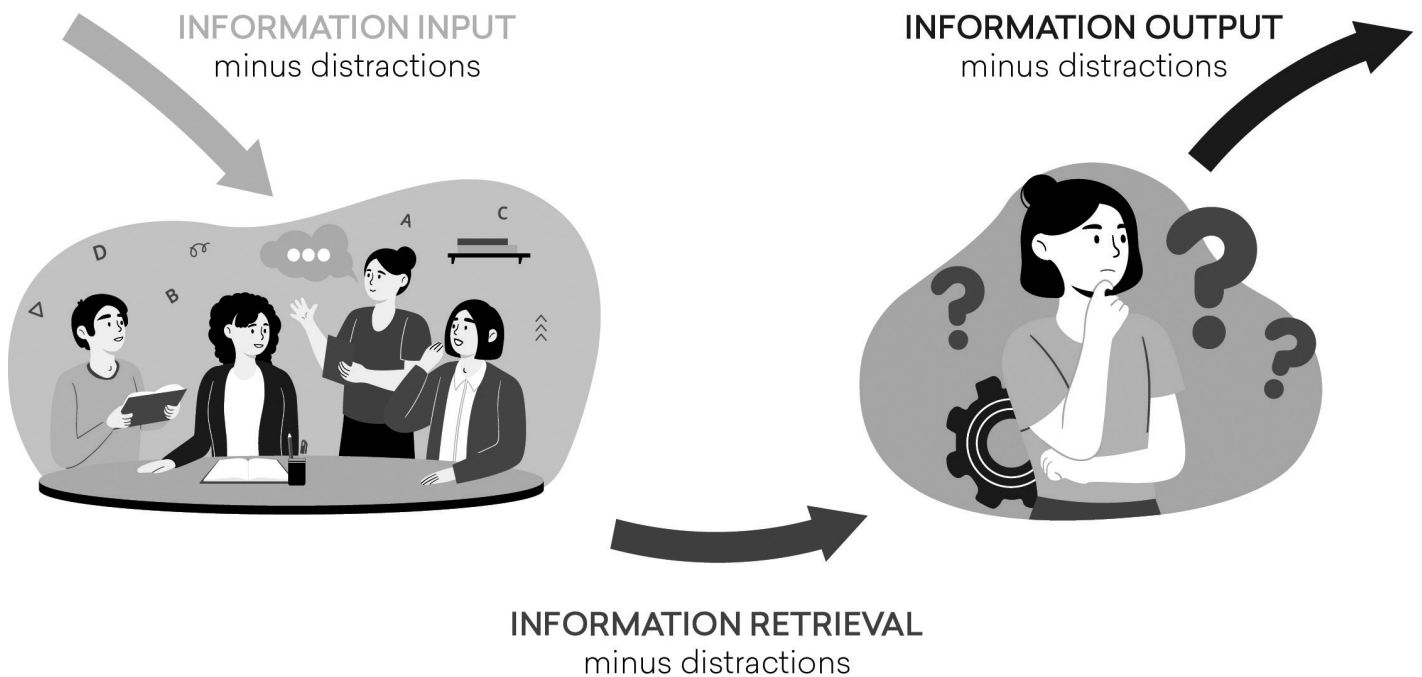
Ebbinghaus' forgetting curve and review cycle.

https://www.researchgate.net/figure/Ebbinghaus-forgetting-curve-and-review-cycle_fig1_324816198



Focus

You have a lot more power over your learning than you might think. You control your focus by deciding to what, and when, you pay attention. Focus during classes is just as important as focus during independent study sessions. The context for each activity is different, as are the distractions, and the demands on your brain. In class you receive information and at home you retrieve, or consolidate information.



How can you maintain focus and attention?

What are the information 'inputs' (including distractions) in class and during independent study?

What are the demands made on you to 'retrieve' information in class and during independent study?

What are the information 'outputs' required in class and during independent study?

How can you control each context to ensure you are best placed to maximise information input, retrieval and output?

Why is this important?



TUTOR
INITIALS

MARVIN MINSKY

You don't understand
anything until you learn it
more than one way.



Topics

1

SELF-EVALUATING

Keeping track of your learning is an important element of effective study habits, enabling you to self-assess your goals, planning and progress.

2

ORGANISING & PLANNING

With a strong commitment to developing these skills, you can develop an effective study routine, and approach assessments with confidence.

5

REHEARSING & MEMORISING

There is more to memory than cramming and rote learning, and effective students use strategies that are backed by research.

6

SEEKING SOCIAL ASSISTANCE

Part of becoming an independent learner is developing your study-squad: friends; teachers; even your parents.



3

**GOAL-SETTING
& MOTIVATION**

Having a destination in mind can help you perform to your potential, master new skills and treat yourself for reaching large and small milestones.

4

**SEEKING
INFORMATION**

The world is so full of information that knowing where and how to find it is key to becoming an independent learner.

7

TRANSFORMING

Learning is active, not passive, so every minute spent turning class content into a new form is embedding this knowledge into memory.

8

**ENVIRONMENTAL
STRUCTURING**

Distractions and disorder are your worst enemies, so creating space – and headspace – for learning will be time well spent.

Pre-Program Reflection



Who?

Who do you study with?
Who assists you in your study routine?

What?

What do you study?
How do you know what to study?



When?

When do you study?
How do you plan when to study?

Where?

Where do you study?
What does your study space look like?

Why?

Why do you study?
What motivates you to study?

How?

How do you study?
What strategies do you use?

Time Boxing



Timeboxing is a time management technique where you allocate a fixed time period to a planned activity. You work on the activity during the fixed time period and stop working on it once the time is up, then you assess whether you've reached your planned goals. 'Timeboxing reduces procrastination and improves productivity' (HBR).

Learn More

<https://hbr.org/2018/12/how-timeboxing-works-and-why-it-will-make-you-more-productive>
<https://www.timetackle.com/timeboxing-101-powerful-tool-for-amplifying-your-productivity/>

1. **Identify tasks:** use the boxes below to make lists
2. **Prioritise:** number the most important tasks in each box
3. **Timing:** estimate the time each task will take
4. **Work:** use a planner/diary to decide when to work (use colour coding so you can visualise your work/life balance). There is a weekly planner on the next page and a term planner in Section 5.
5. **Assess progress:** when the allocated time is expired, revise your plan
6. **Reward:** allow some time to rest/recuperate

Task

STEP 1: Create a 'To do' list by identifying all the tasks you need to complete

Homework

*Tasks set by your teachers
Topics to revise
Reading*

Assessments

*List subjects, assessment
dates, estimate time*

Cocurricular

*Scheduled training
Rehearsals
Personal practise / exercise
Planned events / fixtures*

Social

*Family
Friends
Community
Personal*

STEP 2: Prioritise. Highlight most important items from the list above and estimate how long each task will take.

STEP 3: Schedule. Use the planners at the back of your booklet to help you organise your commitments. Note: there are also annual, week, and term planners in your student diary.



2. ORGANISING & PLANNING

Work expands so as to fill the time available for its completion.

Parkinson's Law

Example

		Strategy		Consulting		Comms / Admin	Me / Family	
Me	06:00 - 06:30	Mon	Tues	Wed	Thu	Fri	Sat	Sun
	06:30 - 07:00	Exercise					Cycle	
	07:00 - 07:30	Shower etc						
	Family breakfast							
	Work	07:30 - 08:00	Email triage / day plan	Commute	Email triage / day plan	Commute	Email triage / day plan	
08:00 - 08:30			Email triage / day plan		Email triage / day plan			
08:30 - 09:00		School run		School run		School run		
09:00 - 09:30		Commute	Higher focus	Commute	Higher focus	Commute		
09:30 - 10:00								
10:00 - 10:30		Quick wins		Quick wins		Quick wins		
10:30 - 11:00		Team standup						
11:00 - 11:30								
11:30 - 12:00		Higher focus	Higher focus	Higher focus	Higher focus	Higher focus		
12:00 - 12:30								
12:30 - 01:00		Stop work						
01:00 - 01:30								
01:30 - 02:00		Reserved	Reserved	Reserved	Reserved	Reserved		
02:00 - 02:30								
02:30 - 03:00		Stop work						
03:00 - 03:30								
03:30 - 04:00								
04:00 - 04:30								
04:30 - 05:00		Low focus	Low focus	Low focus	Low focus	Low focus		
05:00 - 05:30								
05:30 - 06:00								
Family / extracurricular	06:00 - 06:30	Commute						Week plan
	06:30 - 07:00	Dinner						
	07:00 - 07:30							
	07:30 - 08:00							
	08:00 - 08:30							
	08:30 - 09:00							

Smart Goals



Goal-setting will allow you to become more responsible for your learning. It will help you to prioritise what is important and help you to work out where you are going and how you will get there.

There are different types of goals including **Mastery Goals** and **Performance Goals**.

e.g. In English, I want to refine my paragraph structure (mastery) and receive 80% in my next assessment task (performance).

S



SPECIFIC

Be clear and specific so your goals are easier to achieve. This also helps you know how to get started.

M



MEASURABLE

Measurable goals can be tracked, allowing you to see your progress. They also tell you when a goal is complete.

A



ACTIONABLE

Are you able to take action to achieve the goal? Actionable goals ensure the steps to get there are within your control.

R



REALISTIC

Avoid overwhelm and unnecessary stress and frustration by making the goal realistic.

T



TIME-BOUND

A date helps us stay focused and motivated, inspiring us and providing something to work towards.

Learn More

<https://biglifejournal.com/blogs/blog/guide-effective-goal-setting-teens-template-worksheet>
<https://www.kiddiematters.com/goal-setting-coaching-adolescents-successful-life/>
<https://www.mindtools.com/a4wo118/smart-goals>
<https://link.springer.com/article/10.1007/s11031-021-09879-1>



TUTOR
INITIALS

Goal #1

Define Goal:

Measurable Steps:

☐ Mastery Goal ☐ Performance Goal

Rate your current performance



Excellent Good Medium Poor Very Bad

Challenges:

Why might you find this goal difficult? What's holding you back?

Resources:

Review Date:

Reward:

Where can you look for information? Who can you ask for help?

Review

Rate your current performance



Excellent Good Medium Poor Very Bad

Obstacles

Adjustments:

Next Steps:

Review Date:



Goal #2

Define Goal:

Measurable Steps:

☐ Mastery Goal ☐ Performance Goal

Rate your current performance



Challenges:

Why might you find this goal difficult? What's holding you back?

Resources:

Where can you look for information? Who can you ask for help?

Review Date:

Reward:

Review

Rate your current performance



Obstacles

Adjustments:

Next Steps:

Review Date:



TUTOR
INITIALS

Goal #3

Define Goal:

Measurable Steps:

☐ Mastery Goal ☐ Performance Goal

Rate your current performance



Challenges:

Why might you find this goal difficult? What's holding you back?

Resources:

Review Date:

Reward:

Where can you look for information? Who can you ask for help?

Review

Rate your current performance



Obstacles

Adjustments:

Next Steps:

Review Date:

MICHAEL JORDAN

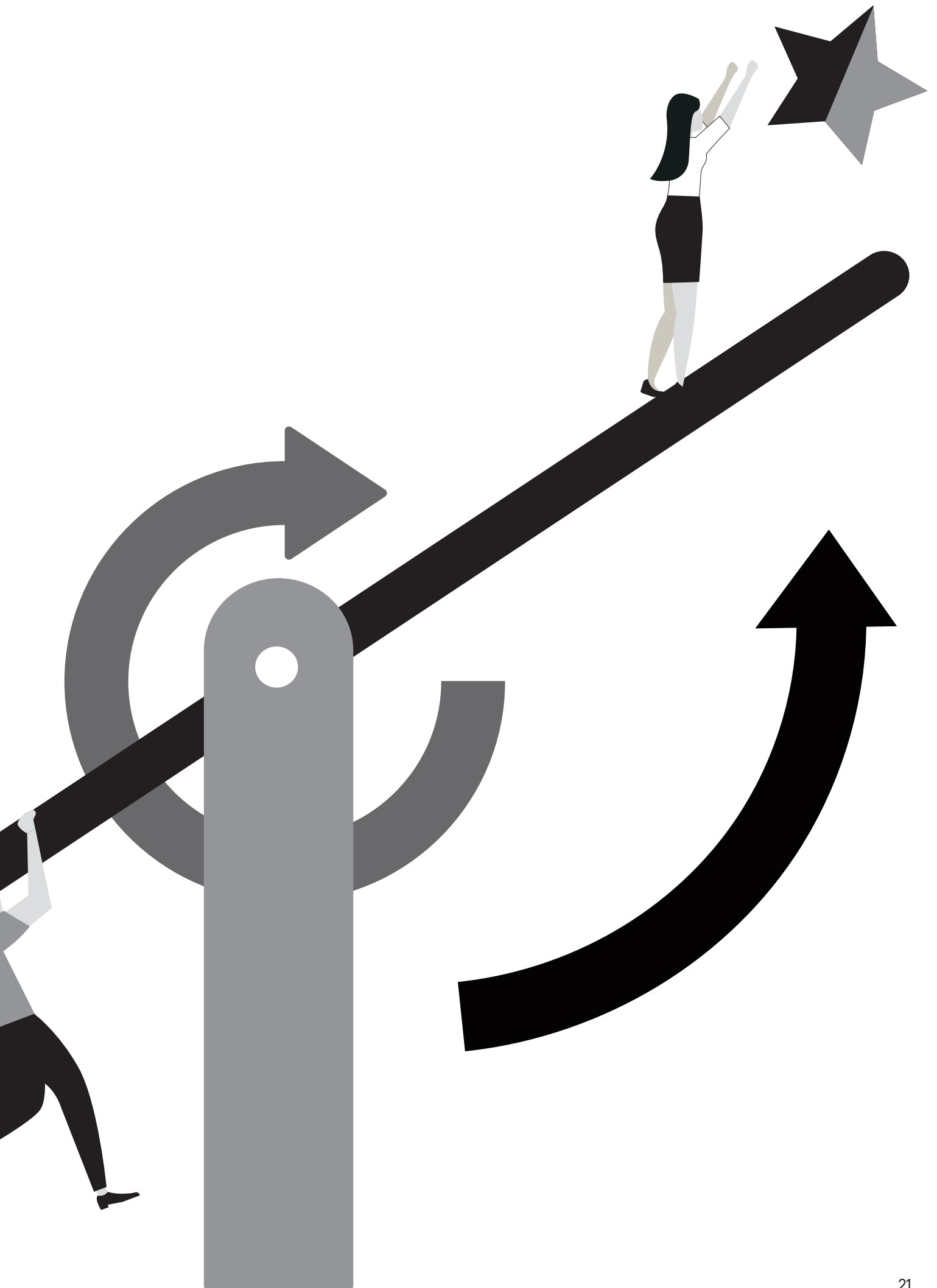
I've missed more than 9,000 shots in my career.

I've lost almost 300 games.

26 times I've been trusted to take the game winning shot and missed.

I've failed over and over and over again in my life and *that is why I succeed.*





ARISTOTLE

Excellence is never an accident.

It is always the result of high intention, sincere effort, and intelligent execution; it represents the wise choice of many alternatives.

*Choice, not chance,
determines your destiny.*



Need help?

LIBRARY

Visit:

Monday – Thursday, 8am – 5:30pm
Friday, 8am – 4:00pm

Book an appointment:

outlook.office365.com/owa/calendar/RennieLibrary@queenwood.onmicrosoft.com/bookings/

Online resources & research:

queenwood.instructure.com/courses/366103

SPECIALIST TEACHERS

Study Skills Coordinator:

Lara.Harvey@queenwood.nsw.edu.au

Head of Specialised Programs:

Gail.Story@queenwood.nsw.edu.au

Years 9 & 10 Specialised Programs:

Amanda.Vincent@queenwood.nsw.edu.au

TUTOR / YEAR COORDINATOR

Year 9:

Carla.Younan@queenwood.nsw.edu.au

Year 10:

Emma.Macey@queenwood.nsw.edu.au

TUTORIALS

Maths clinic:

Tuesday, Wednesday, Thursday, 7:30am
Friday, lunch

4. SEEKING INFORMATION

RESOURCES

Class notes:

Look back on your class notes and worksheets

Marked work:

Look at your homework and reflect on feedback

CANVAS:

Look for resources, links and revision activities

Textbooks:

Look for the topic in the contents and the index

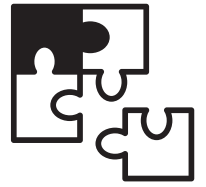
Examinations:

Test whether your revision has been effective by completing past papers available from your teacher / library

Subject handbooks:

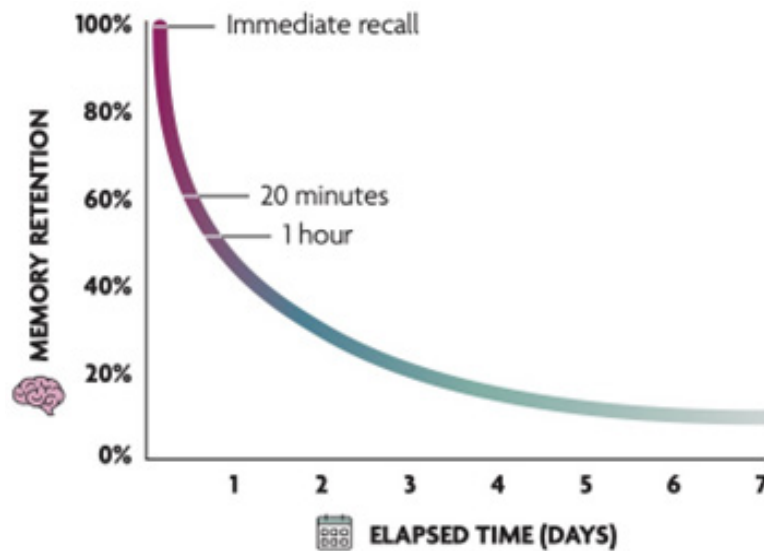
These offer a good overview of topics, outcomes and assessment rubrics

Interleaving



The Forgetting Curve

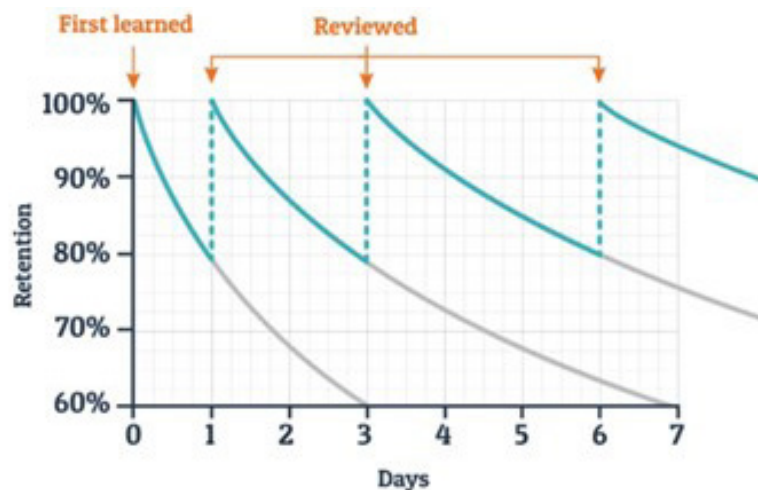
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<https://organisingstudents.com.au/2021/07/the-forgetting-curve/>

Improving Your Memory

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Ebbinghaus' forgetting curve and review cycle.

https://www.researchgate.net/figure/Ebbinghaus-forgetting-curve-and-review-cycle_fig1_324816198

Interleaving

Research shows that if you jumble up your topics while studying, this creates a 'desirable difficulty,' making your memory of that content even stronger!

Blocking



Interleaving



<https://blog.innerdrive.co.uk/why-interleaving-works>

Task

Use the planner on the next page to plan your study routine.

You may consider using Chat GPT to assist in this task.

Flash Cards



Flash cards promote studying through active recall, which is one of the practices through which our brains learn most effectively. The process should:

- Help you remember content
- Help you identify content you do or don't know Help you organise your thoughts
- Improve focus and concentration





Things to consider:

- Make your own flash cards
By looking through resources, considering information hierarchy and summarising, you will begin to learn content.
- Mix pictures and words
See dual coding
- Create mnemonic devices to create connections
- Break complex concepts into multiple questions
Write only one question per card
Ensure you shuffle the cards so it is the content, rather than the order, that you remember
Include flash cards from friends to broaden your revision
- Say your answers out loud or explain them to a friend, or family member
- Study your flash cards in both directions
Question then content,
Content then question

<https://collegeinfo geek.com/flash-card-study-tips/>

Examples

Knossos	rulers of the vast trading empire of Minoans resided here
shrines	areas dedicated to the honor of gods and goddesses
Trojan war	war that took place around 1250 B.C.
frescoes	watercolor paintings done on wet plaster
straits	narrow water passages
Homer	poet who is credited for the work of the Iliad and the Odyssey

<p>Why did Stalin fail to get control of Yugoslavia?</p> 	<ul style="list-style-type: none"> - Only eastern European country that didn't fall under Soviet control - Yugoslavia liberated by army of 300,000 Yugoslavian partisans led by Yugoslavian communists wary of Soviet control and not by Red Army - Communist leader Tito was not a soviet-trained Stalinist he was independent and refused to listen to Moscow - Yugoslav communism was as nationalist as it was communist
<p>Why did relations between Yugoslavia and Stalin break down?</p> 	<ul style="list-style-type: none"> - After the war, Tito tried to capture Trieste in Italy and came into Spain fighting with USA against Stalin's wishes - In 1946, Tito supported Greek communists against British when Stalin had promised USSR to stay out of Greece - In 1947, Tito tried to organize federation Bulgaria, Yugoslavia and Albania into a 'Land of the South Slavs' without consulting Stalin - Tito applied for Marshall Aid and was expelled from Cominform but received \$150 million from USA - In 1948, Tito warned Soviet spies and Stalin who were trying to get him replaced. Khrushchev (Stalin's candidate to replace Tito) was killed in prison in 1948 - 1948 - break with Stalin - This did not attend 3rd meeting of Cominform which expelled Yugoslavia in June 1948
<p>The Berlin Blockade (24th June 1948)</p> 	<ul style="list-style-type: none"> - 23 June 1948 = West zones recovering because of Marshall Aid, USA + GB introduce new currency called 'Deutschmark' to strengthen economy of West Germany - New currency = economic crisis in East Germany as people rushed in thousands to change old marks for new Deutschmark - Stalin's response = 24th June 1948 = close all roads, railways and canals that led to West Berlin
<p>The Berlin Airlift</p> 	<ul style="list-style-type: none"> - West Berlin = 2 million residents with only enough food and fuel to last 6 weeks - In 1945, each ally granted air corridor to fly to West Berlin = used to fly supplies - 26th June 1948 = first flights = 600 tonnes of fuel, food and supplies sent each day (4000 tonnes needed to survive) - By September 1948, aircraft landing every 3 minutes night and day - By Spring 1948 = 8000 tonnes a day - Stalin cut off electricity and offered extra rations to move to soviet but only 2% accepted

TOP TIP

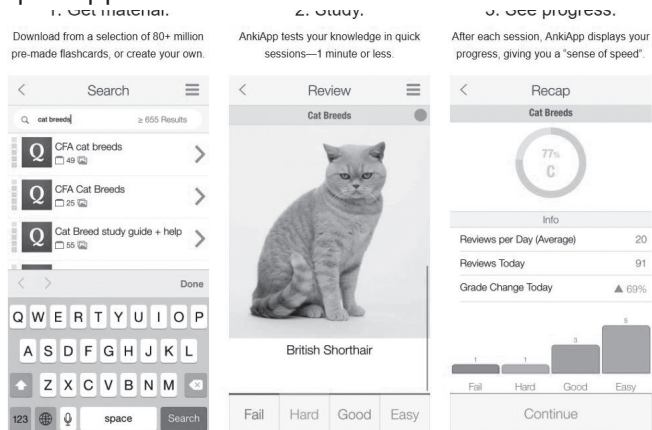
Great for Languages, Sciences,
Maths, and Social Sciences.

5. REHEARSING
& MEMORISING

Tech Tools

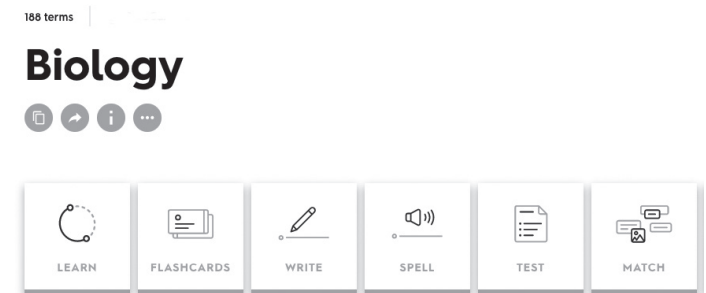
ANKI

<https://apps.ankiweb.net/>



QUIZLET

<https://quizlet.com/en-gb>



Task

Divide into small groups. Create a set of flashcards to help you revise for an upcoming test. Sharing your cards with the group will broaden your revision.

Ask a teacher



Guide

Asking your teacher good questions helps you clarify your understanding and develop as an independent learner. Things to consider:

CONTENT

- **Subject-specific**
Ask your class teacher in the first instance, follow up with the Head of Department if required.
- **Personal wellbeing**
Ask your Tutor in the first instance, follow up with your Year Coordinator if required.
- **Academic program**
Ask your Tutor in the first instance, follow up with the Director of Curriculum if required.

TIMING

- **During your lesson** if it is relevant to discussion or other class members.
- **At the conclusion of your lesson** if it's a personal matter or related to the manner in which the teacher delivers the content.
- **During the week** if you encounter problems with homework or require individual direction with a specific topic.
- **Well in advance** if asking about assessments or draft submissions.

METHOD

- In person
- Via email

PREPARATION

- **Research**
Look at your class notes, CANVAS, feedback on homework/assessments; ascertaining the nature of the issue will help you form good questions, promoting good discussion and good learning.
- **Be specific**
Your teacher has a lot of students and limited time; make the most of your appointment by asking specific questions e.g. *I have looked at the class notes and the textbook and still can't understand how to use the trigonometry formula to answer example X.*

ETIQUETTE

- **Be polite**
This can be a challenge if you are frustrated or disappointed, but it is crucial in building a positive and productive relationship with your teacher.
- **Be timely**
Ask for direction with assessments well in advance of the due date.

Be mindful of your teacher's calendar e.g. best not to make demands in the last week of Term 4 when teachers are writing reports and marking examinations.

- **Be patient**
Allow adequate time for your teacher to consider then respond to your request.

If you have asked about a complex issue, perhaps indicate the issue in an email in advance of a meeting so the teacher has time to consider a response.



What's wrong with this email?

Yes, it is one we've actually received!

Subject: Need notes!

What up Maceman.

Was sick yesterday and need the notes.

Re-write the email the right way!

Feel free to write your own if you need to contact a teacher for another reason.

Subject Line: Your name, Your Year Group, Subject, Issue

Salutation: Dear Mr/Mrs/Ms/Dr/Prof X,

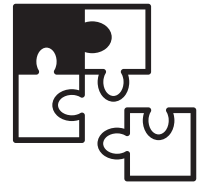
Body copy: During the lesson/homework assignment on A, I encountered an issue with B.
I have read/researched/reviewed C and am still struggling with how A is related to D.
Is it possible to cover this in the next lesson?

OR

May I please meet with you at recess following the next lesson or at another time?
I am available at the following times: E, F, G, H.

Sign off: Yours sincerely,

Dual Coding



Making learning visual helps memories stick. Researchers have found that we have verbal and visual intake channels in our brains. Using both channels simultaneously helps to increase how well we absorb information.

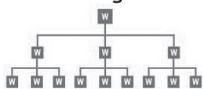
Dual coding is the process of combining verbal materials with visual materials. By arranging and organising words with accompanying visuals the meaning becomes easier to understand and we remember it better than with visuals or words alone.



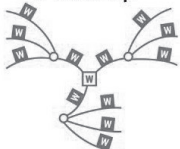
There are lots of different ways to visualise information; the method should be directed by the content and the way that you understand it. Common strategies that employ dual coding are: brain dumps, graphic organisers, and sketch notes.

CHUNK

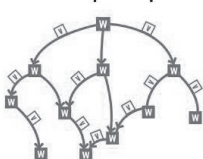
Tree Diagram



Mind Map



Concept Map

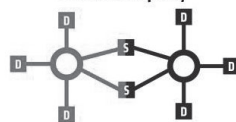


COMPARE

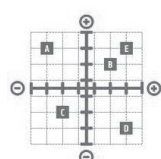
Venn Diagram



Double Spray



Crossed Continua

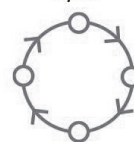


SEQUENCE

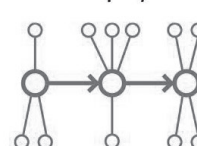
Flow Chart



Cycle



Flow Spray

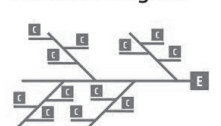


CAUSE & EFFECT

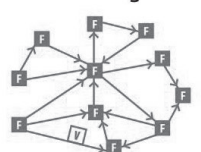
Input-Output Diagram



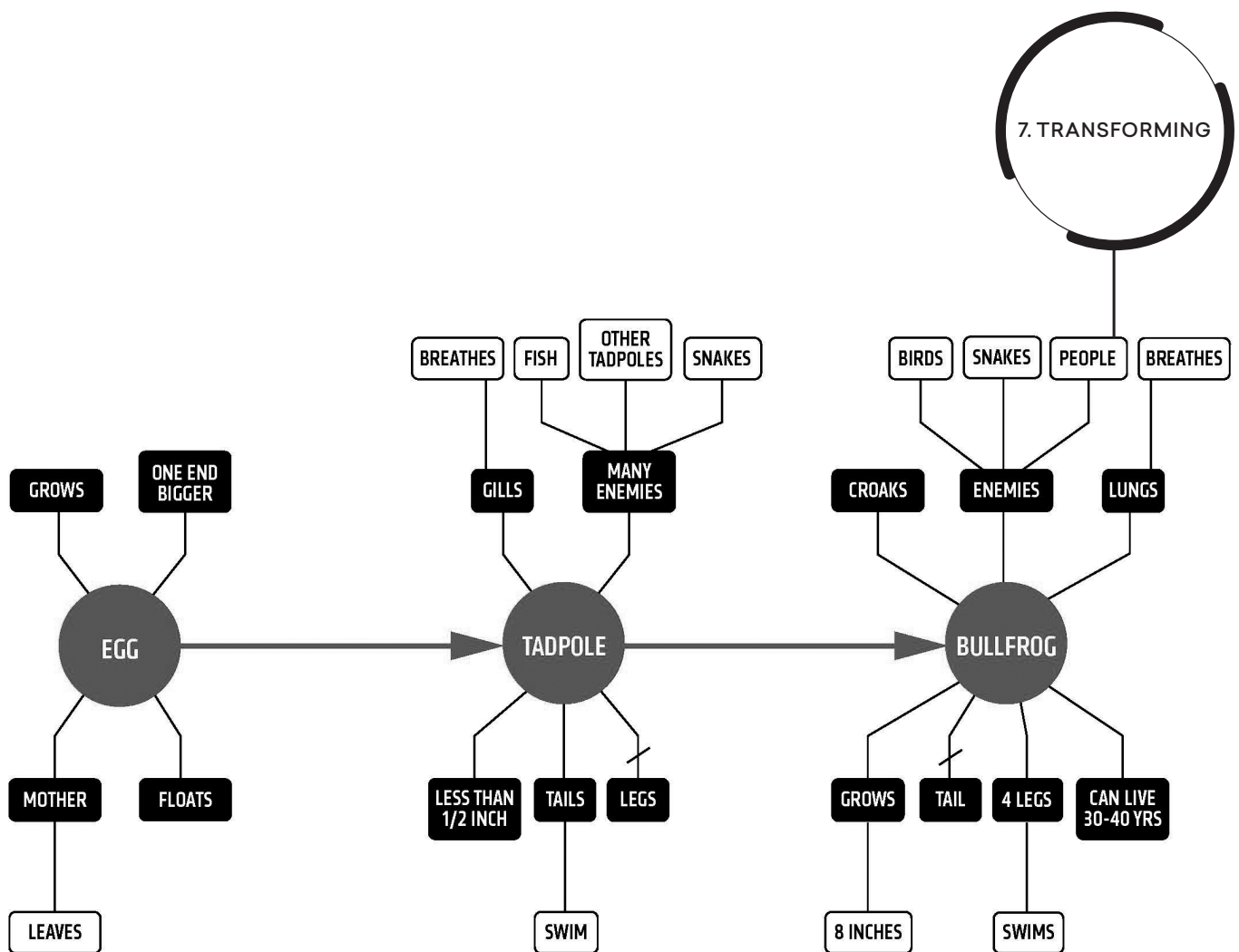
Fishbone Diagram



Relations Diagram



<https://www.olicav.com/>



Example: Flowspray, From Egg to Bullfrog
<https://www.olicav.com/#/graphic-organisers/>

Create a graphic organiser

CLASS ACTIVITY: Read this explanation of photosynthesis
<https://education.nationalgeographic.org/resource/photosynthesis/>

You have 2 minutes to write down as much as you remember.

Look at this diagram of photosynthesis
<https://www.ducksters.com/science/photosynthesis.php>

You have 2 minutes to draw as much of the diagram as you remember.

Work with a partner to translate the following text into a diagram.
 The process of transforming the information will help you remember it.
<https://www.worldhistory.org/Feudalism/>

Retrieval Grid



TOP TIP

Great for English, Sciences and History.

7. TRANSFORMING

Example, Biology

Recall the four steps of natural selection.	Define adaptation and identify the three types.	Define selection pressures.
Construct a sentence to show the relationship between natural selection and evolution.	Use the example of Galapagos Tortoises to explain speciation.	Predict the result of changing selecting pressures on a cloned population.
Analyse a timeline of life on earth to describe the major changes over time.	Construct a flow chart to show how excessive use of antibiotics has lead to antibiotic resistance in bacterial populations.	Construct and defend a model to demonstrate natural selection in a population.

Task

Using content learned in class, create a retrieval grid to test your memory of facts, definitions, relationships and processes. When you've completed one, swap with a friend.

Cornell Notes



Information sticks in your brain if you have to 'do something' with it. Cornell notes were developed by Walter Pauk at Cornell University in the 1950s in response to a number of students failing his classes. He sought a way to help them remember the content and it worked! By asking his students to question the content and rearrange it, he increased the chances of them remembering. Their ability to retain the content increased when they returned to the notes at intervals and added content or tried to answer the initial questions at a later date.

You can use this method during class, or when taking notes from long pieces of text.

Title of lesson		Name: Date: Paper:	
Cue column <ul style="list-style-type: none">• Most important information• Headings• Topics		Notes column <ol style="list-style-type: none">1. Record: During the lecture, use the note-taking column to record the lecture using short sentences.2. Questions: After class, formulate questions based on the notes in the note-taking column. Writing questions helps to clarify meanings, reveal relationships, establish continuity, and strengthen memory. Also, the writing of questions sets up a perfect stage for exam-studying later.3. Recite: Cover the note-taking column with a sheet of paper. Then, looking at the questions or cue-words in the questions and cue column only, say aloud, in your own words, the answers to the questions, facts, or ideas indicated by the cue-words.4. Reflect: Reflect on the material by asking yourself questions, for example: "What's the significance of these facts?", "What principle are they based on?", "How can I apply them?", "How do they fit in with what I already know? What's beyond them?"5. Review: Spend at least ten minutes every week reviewing all your previous notes. If you do, you'll retain a great deal for current use, as well as, for the exam.	
1/3		2/3	
↑ +/- 8cm		Summary After class, use this space at the bottom of each page to summarise the notes on that page.	

<https://learningessentials.auckland.ac.nz/key-study-skills/note-taking/cornell/>

TOP TIP

Great for humanities or content-heavy subjects like Biology, History, English, or Economics.

7. TRANSFORMING

Stomach

What is the anatomy of the stomach?

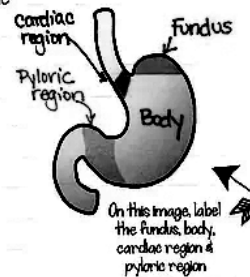
Stomach= muscular sac with thick walls
The stomach continues the processes of mechanical and chemical digestion

What are sphincters and what is their function in the digestive system?

Thick rings of muscle that act as gatekeepers to regulate food movement

What two sphincters are located in the stomach?

- Cardiac sphincter = separates esophagus from stomach
- Pyloric sphincter = separates stomach from small intestine



How does mechanical digestion occur in the stomach?

The stomach has a slippery outer layer of Serosa, followed by 3 layers of muscle:

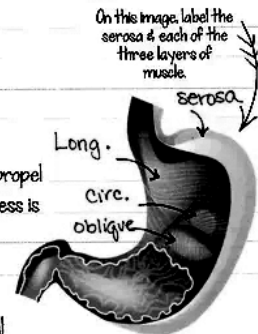
- Longitudinal muscularis
- Circular muscularis
- Oblique muscularis

These muscles help to churn food and propel it towards the small intestine. The churning process is known as maceration.

What are rugae? "wrinkles" in the mucosa that can stretch when full

The mucosa layer of the stomach contains several specialized gastric gland cells:

- Mucus cells- secrete mucus to protect stomach lining
 - Chief cells- secrete pepsinogen (inactive enzyme)
 - Parietal cells- secrete HCl to kill microbes in food & convert pepsinogen into pepsin, which breaks down food proteins.
- The soupy mixture formed from the squeezing of the stomach and the addition of these gastric juices is known as chyme.



How does chemical digestion occur in the stomach?

Summary: The stomach is made of 3 muscular layers and an outer layer of Serosa. During maceration, the stomach churns the food and gastric gland cells add chemicals and enzymes leading to the formation of chyme.

Task

Use Cornell notes during one lesson this week.

Was it a helpful method in this instance? Why/why not?
Would it be helpful in other instances? Why/why not?

Brain Dump



A brain dump is the act of writing down everything that comes to mind on a particular topic. It's a way to get all of your thoughts and ideas down on paper. Linking new content to what you already know will help you remember. You can do this at the start of a topic or you can use the method on the next page to combat the forgetting curve! Researchers believe the benefits are similar to journaling; it is a means of downloading and processing information.

The process should:

- Help you remember content
- Help you identify content you do or don't know
- Help you organise your thoughts
- Improve focus and concentration

The sun is the ultimate source of energy!

Producers	Consumers	Decomposers
Plants! → contain the greatest amount of energy	carnivores - eat meat herbivores - eat plants omnivores - eat both	- Break down organic matter (food) and returns the nutrients to the soil.

Sunlight → Food → Human eats both = Humans & animals ultimately get their energy from the sun.

Trophic Levels

FOOD CHAIN

```

graph TD
    Grasses --> GrassHopper
    Grasses --> Mouse
    GrassHopper --> Hawk
    Mouse --> Hawk
    Mouse --> Snake
    Mouse --> Vulture
    
```

Molecular Biology Braindump

Food: fuel for all organisms.

Plants: Photosynthesis

$$CO_2 + H_2O + \text{Sun} \rightarrow C_6H_{12}O_6 + O_2$$

cellular Respiration: ↗ Opposite Reactions ↖

$$C_6H_{12}O_6 + O_2 \rightarrow CO_2 + H_2O + \text{Energy}$$

Cells: Divide and reproduce. They need fuel (food to do so)

In cellular respiration, cells create energy known as ATP. our bodies use that for energy, cell growth & repair, etc.

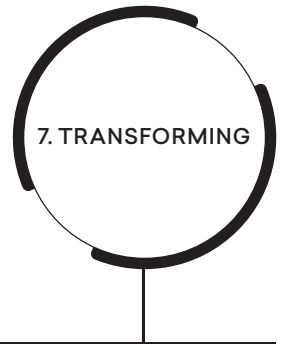
BMR (Basal Metabolic Rate) - the amount of energy to maintain basic life functions.

Digestion - breaks down food and it gets absorbed in your body.

If you consume more calories than your body burns off in one day, it is stored as fat... weight gain. Balance = energy in = energy out

"There are no shortcuts to any place worth going." → FINISH STRONG! ♥

Yunni Handayani, Adi Rahmat, Didik Priyandoko (2021) BRAIN DUMP ACTIVITIES TO OVERCOME STUDENT'S INTRINSIC COGNITIVE LOAD IN REPRODUCTIVE SYSTEMS ONLINE LEARNING <https://ejournal.upi.edu/index.php/jpmipa/article/view/37217>
<https://msdavenportsci.weebly.com/brain-dump-practice.html>



Task

STEP 1: Write down everything you know about:

This should take 5 – 10 minutes.

STEP 2: At the end of your next lesson on the topic, add to the brain dump above.

This should take 5 minutes.

STEP 3: One week later write down the 3 MOST IMPORTANT POINTS.

This should take 3 minutes.

Keep these notes to help you revise before examinations or assessments.

Making space to study



Study Space

Where?

A clear separate space designated specifically for study helps you manage your mindset and transition between social activity and study.

This can be at school (e.g. library or common room), at home (e.g. a study or desk space), or in a community space (e.g. Mosman Library has extended hours).

Where will you study?

☐

☐

How?

Think about what distracts you most - family, friends, social media, music - it will be different for all of you. Remove the distraction during designated study periods. We like to put away our phones, pop on some noise cancelling headphones and 'work offline' so emails don't pop up and steal our attention.

What are your biggest distractions?

☐

☐



TUTOR
INITIALS

Resources

Who?

Some study activities require you to work solo so you can process information yourself, At other times it's good to work with a friend or parent – explaining something aloud can clarify your understanding or sharing study notes can help fill in gaps in your knowledge.

Who helps you focus?

☐

☐

Planning

Stick to on system & use it consistently. It should be accessible, quick and easy.

You might consider:

☐ Coloured envelope folders containing, textbooks, notes, worksheets etc. You can colour code your timetable with the same palette.

☐ Online folder systems with each topic containing class notes and links to online resources

☐ One note or other online system

☐

When?

Establishing a regular routine will limit the time you spend thinking about when and how to study, freeing your mind up to read, think and work. You may have commitments after school and prefer to rise early and study in the morning, or vice versa. You may have a lot to do during the week and have to spend time on the weekends catching up.

When will you study?

☐

☐

Which planning system will you use?

☐

☐

Stick to one planning system & use it consistently. It should be accessible, quick and easy: your diary, outlook calendar, term planner?

Term Planner

	Monday	Tuesday	Wednesday	
Week 1	APRIL 24	25	26	27
Week 2	MAY 1	2	3	4
Week 3	8	9	10	11
Week 4	15	16	17	18
Week 5	22	23	24	25
Week 6	29	30	31	JUNE
Week 7	5	6	7	8
Week 8	12	13	14	15
Week 9	19	20	21	22
Week 10	26	27	28	29

TOP TIP

Use the term planner in your school diary so you can keep it with you at all times.



Thursday	Friday	Saturday	Sunday
	28	29	30
	5	6	7
	12	13	14
	19	20	21
	26	27	28
1	2	3	4
	9	10	11
	16	17	18
	23	24	25
	30	JULY 1	2

Weekly Planner

	Monday	Tuesday	Wednesday	
7:00am				
8:00am				
Period 1 9:00am				
Period 2 10:00am				
Period 3 11:00am				
Period 4 12:00pm				
1:00pm				
Period 5 2:00pm				
3:00pm				
4:00pm				
5:00pm				
6:00pm				
7:00pm				
8:00pm				
9:00pm				
10:00pm				



TOP TIP

Use a pencil so you can make adjustments; things WILL change!

Use highlighters to visualise the balance between different commitments including academic, cocurricular and personal.

[illegible]

Daily Planner

Date:

M T W T F S S

Daily goals:

○

○

○

Academic:

○

○

Co Curricular

○

○

Wellbeing / Personal

○

○

Remember

○

○

Water



Before School

During School

After School

TOP TIP

A daily planner is a great way to stay on track. When you're really busy it helps you prioritise by balancing daily tasks and long term goals. You can use your diary, a daily planner pad, or Microsoft 'To Do'. This should be a quick activity; 5 minutes first thing in the morning to keep you calmer during the day.



Date:

M T W T F S S

Daily goals:

☐

☐

☐

Academic:

☐

☐

Co Curricular

☐

☐

Wellbeing / Personal

☐

☐

Remember

☐

☐

Water



Before School

During School

After School

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