SUMMER INDEPENDENT LEARNING

During your time at New College in Y12, you will have been given lots of advice from subject teachers and progress tutors about metacognition and effective study strategies. To review this, we are asking you to do the following as part of your SIL:

- Read the advice on the right here about how to use the Cornell note-taking method
- Read the information about metacognition on the following pages
- Summarise this information using the Cornell method
- Bring your summary notes to your first Tutorial in Y13…and prepare to be tested on it!

THE CORNELL METHOD

ABOUT

The Cornell note-taking method was devised in the 1940s by Dr Walter Pauk, at Cornell University.

- Efficient method of taking notes
- Encourages reflection
- Makes an effective study guide for revision and exam preparation

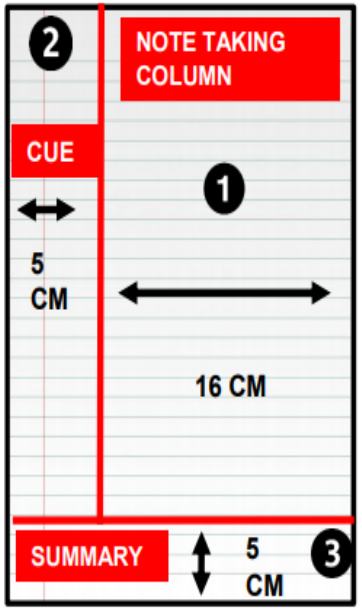
HOW

Divide an A4 page into the three sections as shown.

You can use different dimensions for each section if you prefer

Each section has a specific purpose:

1. RECORD
2. QUESTIONS
3. REVIEW



1

- Write your notes in this section
- Use **any format** you like to record these notes (for example, mind-mapping)
- Record only the **important information** (don't write in full sentences)
- Focus on **ideas** rather than the actual words

2

- This section is for **recall** after you have written your notes.
- Once your notes are completed, **write a series of questions** that are answered by the notes.
- When you **review** your notes, cover the note taking column with a blank piece of paper and try to **answer the questions** you have written.

3

- A **summary** of the notes taken
- It should be **concise** focusing on **key ideas** only
- Written in **your own words**
- **NOTES + CUES + SUMMARY** should show how all ideas fit together

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Metacognition

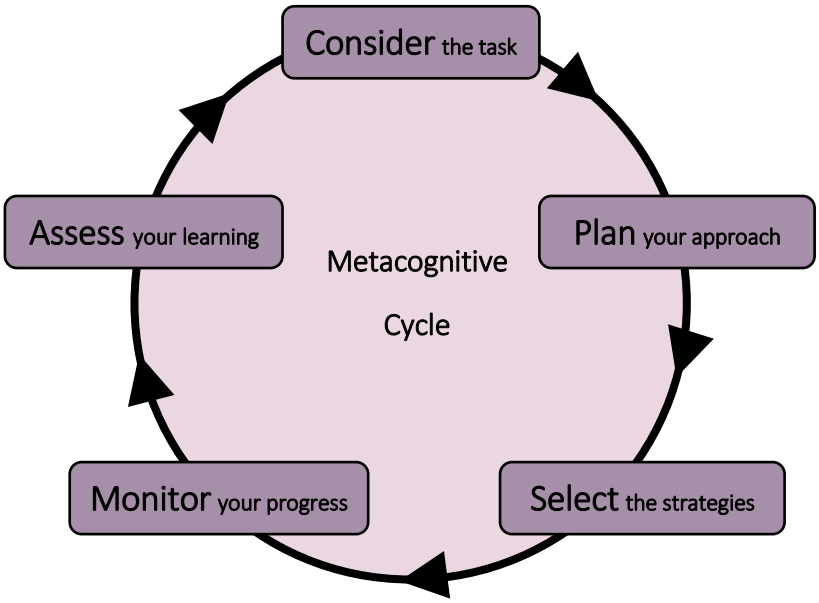
The key to becoming an effective learner

Metacognition involves a variety of skills and behaviours that are crucial if you are to become an effective learner at college. Research evidence shows that students who use metacognitive thinking make the most gains in their learning and achieve more highly in examinations.

Metacognition involves:

- Carefully **considering** the task at hand so that you know what the specific goal or purpose of the activity is.
- Purposefully **planning** what you want to learn, know or achieve and how you will know if you have been successful.
- Deliberately **selecting** the strategies that will be the most effective for the task, activity or content to be learned.
- Regularly **monitoring** how you are doing to see you if you are still on track and **adjusting** your strategies accordingly.
- Accurately **assessing** your level of learning to determine what you have learned and what you still don't fully understand.

These five aspects of metacognition can be viewed as a cycle which can be applied to any learning activity. This cycle can happen rapidly or over a longer stretch of time. And it doesn't always follow the sequence systematically. In some cases, it can almost feel so seamless that it's invisible. However, even so, it is vital for learning. When students have strong metacognition skills, they are more likely to succeed in college, in their careers, and in life-long learning. Practice using it!



In our view, understanding how to effectively implement this metacognitive cycle involves:

- Understanding how we learn and how memory works.
- Knowing what the effective learning strategies are and how to use them.
- Making accurate judgements about your level of learning (calibration).
- Knowing how to monitor your learning and how to control your learning activities in response to such monitoring.

These elements are explained further overleaf.

Understanding how we learn & how memory works

The multi-store model of memory in Cognitive Psychology states that in order to remember information effectively for exams, it needs to be converted into long term memory. Simply rehearsing/repeating information over and over again will only keep information in short-term memory, and short-term memory is limited, so it will get full quickly! Long term memories are stored semantically, which means they are stored according to their meaning. Therefore, in order for you to effectively remember all the information you need for your exams, you need to ensure that you practice something called **elaborative rehearsal** in your revision. This means *doing something meaningful* with the information you're trying to learn (rather than simply re-reading it). The next sections summarise the most effective elaborative rehearsal strategies you should use when you revise.

Retrieval Practice

This means **testing yourself**. Research shows that testing more and studying less leads to better memory of the information than the other way around. This is because recalling something from memory actually strengthens the brain's pathways to that information, making it easier to remember in the future. Retrieval practice can be done effectively in many different ways, for example:

- Answering questions from memory
- Flashcards (say out loud what you remember from the back side of the card, then turn it over to check)
- Free recall: write down everything you know about a topic on a blank sheet of paper

Important tips when doing retrieval practice:

- Test on material you haven't looked at recently (this will establish what's in your **long-term memory**)
- Check what you **get wrong** in your testing, and make sure you seek out further help from wider reading or your teacher on these parts
- Check what you **miss out** in your testing and keep a "retrieval practice diary" to schedule in more testing of these parts in the future

Spaced (or Distributed) Practice

This is the opposite of cramming for a test. Research shows that people remember more if they split their study time up into shorter sessions that are spaced out over time, than if they do the same amount of study all together in one session. This strategy requires you to plan your revision so that you can re-visit the same topics at intervals before an exam (rather than doing all your revision on a topic in one long session, right before the exam). You should therefore aim to revise each topic for an exam on more than one occasion before that exam. The harder you find a topic, the more times you need to revisit it.

Important tips when doing spaced practice:

- Have a diary or calendar for the weeks/months leading up to an exam so you can plot in when you will revisit the same topics in advance
- Decide roughly how long (in total) you need to spend revising a topic, then break this time down into several smaller chunks - these are the revision sessions you need to space out in your diary
- Each time you re-visit the topic, leave a longer time interval than the one before (this pushes your long term memory to its limit and helps consolidate the memory)

Interleaving, or Varied Practice

This means switching to a different revision topic before you have fully mastered the current one. It works in tandem alongside spaced practice, as it means you are temporarily cutting your revision of a topic short in order to switch - but then you will come back and revisit it at a later time. Research shows that you are likely to recall - and understand - more information when you study in this way.

Important tips when interleaving:

- Don't spend hours rehearsing the same thing/practicing the same skill or type of question - switch once you've done some and put in your diary to come back to it again (see spaced practice, above)
- Make sure you understand the topic at least to a degree before switching
- When you switch, it's best to turn to a related topic to the one you've just been looking at - this allows you to make links and comparison between them, which will help consolidate memory and deepen your understanding

In addition to using elaborative rehearsal strategies, it is also important that you are evaluating how well you are performing in each of your subjects/topics - otherwise you are unlikely to improve on those areas that need improvement. Part of being a metacognitive and self-regulated learner is to undergo calibration training, and to make sure that you are actively planning for improvement.

Calibration Training

Calibration is the ability to accurately judge your own performance on a task - in other words, do you know what your strengths and weaknesses are? Research suggests that the weaker someone is at a task, the more likely they are to **over-estimate** their performance (they tend to think they are a lot better than they really are), and therefore they don't devote enough study time to that task, so rarely improve. So that you are spending your time on the right tasks, you therefore need to undergo activities that will reveal whether you are making accurate performance judgements. For example, when you do an assessment of some kind, you could follow this procedure:

1. Self-mark your work before the teacher marks it
2. Based on your own marks, make a list of what you think your strengths and weaknesses are
3. Ask your teacher to do the same
4. Compare your marks and list with the teacher's
5. Identify major differences and discuss why your thoughts differed, trying to come to an understanding of where your thinking may have been inaccurate
6. Use your teacher's list to inform your revision in future (the weaknesses are what you should devote the most time to)

Monitoring your Learning, or Self-Regulation

In order to improve at anything, you first have to ask yourself **"where am I going?"** This means you must **i**dentify some key goals for yourself in each of your subjects. For example, a Psychology student may want to produce level 4 essay responses. Your goals should be based on areas of weakness that you have identified in your calibration training. Each time you complete an assessment or practice a task, ask yourself the next two questions:

- **"how am I going?" -** in other words, look at your feedback to establish whether you are any closer to achieving the end goal. In the case of the Psychology student, what level was their last essay, and why?
- **"where to next?"** - establish what is preventing you from achieving the end goal and devise a plan to close that gap. For the Psychology student, this might be including more evaluation into their essay responses, so they may plan to increase their retrieval practice of evaluation material.

When you are devising a plan to improve on weaknesses, it's always a good idea to set targets that are **SMART:**

Specific, for example "complete 4 weekly free recall sessions" is more specific than "revise more"

Measurable - make sure you can evidence that you've done it. "Revise more" isn't measurable, whereas "produce flashcards on every topic" is!

Achievable & **R**ealistic - don't make promises you know you can't keep, like "do 10 hours revision every day"! Start small and build gradually.

Time-bound - set a deadline, or a goal amount of time you want to spend on the task.