# Spacing and Timing of Revision

Information for Students

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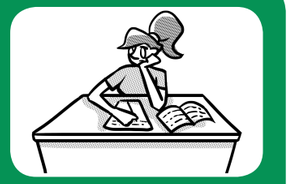
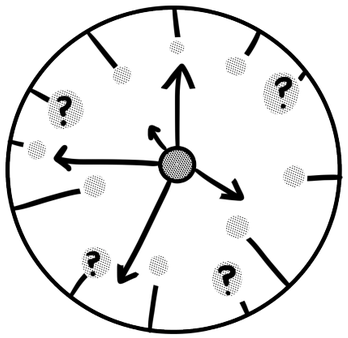


## What is it?



Spacing is a revision technique which is all about spacing out your revision so you don't get swamped and overwhelmed.

It means introducing time intervals into your revision sessions, as well as spacing out the days which you use to revise for topics.

To commit something to memory, it takes time and repetition.

## Optimum Spacing

- Research suggests there is an 'optimal gap' between revision sessions so you can retain the information
- If the test is in a month, you should review the information around once a week; if the test is in a week, create time once a day

| Time to the test | Revision Gap |
|---|---|
| 1 Week | 1-2 days |
| 1 Month | 1 week |
| 3 Months | 2 weeks |
| 6 Months | 3 weeks |
| 1 Year | 1 month |

**To commit something to memory, it takes time and repetition.**

## How can it help you?

- Doing something little and often – spacing – beats doing it at once, or cramming
- The time in between revision allows you to forget and re-learn the information, which cements it in your long-term memory
- It cements information into your long-term memory
- We can learn more information over time than in one longer session
- It helps you revise more efficiently

## Top Tips for time!

1. Know what your revision goals are and set aside blocks of time.
2. Don't work too much – work smarter, not harder.
3. Establish good habits and a structured revision routine.
4. Don't procrastinate- don't waste precious time worrying or thinking about what to do –just do it!
5. Review your work – prompt your brain with short review exercises.

**Did you know? The brain requires a physical "prompt" in order to keep something in long-term memory. Otherwise, it is designed to let it go.**

## Create the perfect revision plan

1. Organisation: determine where you need to focus your time – e.g. which subjects, topics, what you know, what you struggle with etc.
2. Planning: map out what you are going to revise and when. Use a timetable or revision planner to do this. Choose a mixture of a subject's topics to focus on each day to make sure you are spacing them out.
3. Review: build in different revision techniques to help you do some quick 5–10 minute reviews of your topics throughout your revision plan - e.g. reading through notes, highlighting information, making post-it notes.
4. Transformation task: these are 30 minute activities to help you take in information - e.g. writing summary sheets, flashcards or mind maps for topics.
5. Practice testing: test yourself on the area that you have reviewed, such as with quizzes or by testing yourself with a friend.
6. Exam questions: complete an exam question or questions on the area you have reviewed and mark this yourself, using a mark scheme.

**Five hours of time, spent in smaller chunks and spaced periodically, is a far more effective way to learn something than five hours spent the night before.**

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# Cognitive Load Theory

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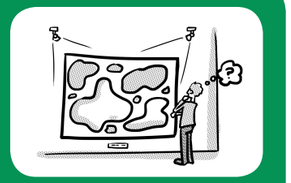

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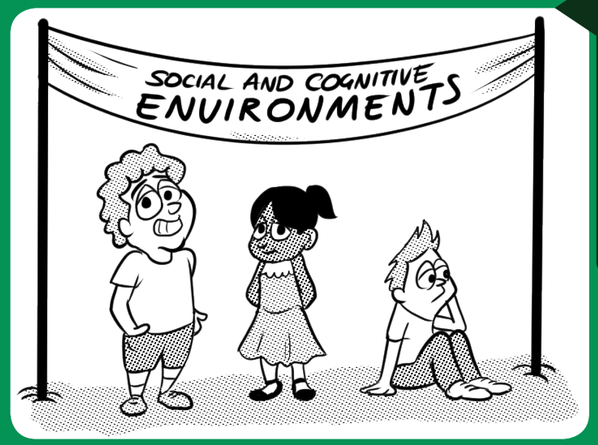



'Cognitive Load' Theory was developed by John Sweller out of the study of problem solving.

Cognitive load is the amount of information our working memory can hold at any one time. The working memory is where we process information and is key to learning.

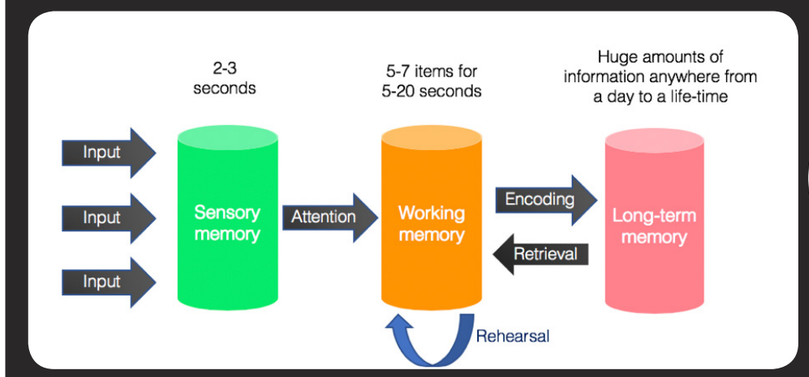
## We are Limited!

We must therefore manage our working memory using different strategies. There are 3 types of working memory:

1. Intrinsic Load – this means how complex a task is. If a task or problem is really complex then it can take over most of our working memory. If a task is simple, it uses less working memory.

2. Extraneous Load – these are the instructions you are given or how questions are written. Incomplete instructions take up space in working memory and don't help you learn.

3. Germane Load - This is the amount of work you put in to create a permanent store of knowledge.




What does this mean? You should **ALWAYS ASK** if you don't understand something.

Top 10 tips to help you apply the Cognitive Load Theory to revisit and learn new information:

## Top Tips

1. Break the problem down into parts. This reduces the problem space and lightens the cognitive load, making learning more effective.
2. Look at worked examples to understand how to complete tasks.
3. Take advantage of auditory and visual channels in your working memory.
4. Start with learning simple information and build on it.
5. Create an environment with as few distractions as possible so turn off your phone, music or the TV. Distractions add to your working memory.
6. Avoid overloading your brain with too much information at one time.
7. Always review information from your lessons as you go along because this will help improve your retention and add knowledge to your long-term memory.
8. Focus on one task or topic at a time.
9. Rehearse the components of a complex task so that it becomes automated, thus freeing up working memory capacity.
10. Create stories from information to be remembered or group information into more memorable categories or more accessible chunks.

## Did you know?

The mind processes visual and auditory information separately BUT too much visual and text displayed together compete with each other in your mind.

When you have multiple sources of visual information, such as diagrams, labels and explanatory text, your attention is divided between them. This adds to the cognitive load, making it more difficult for you to learn.

Top tips to help you revise:

- Incorporate labels into diagrams rather than writing text in separate boxes
- Use acronyms to help you learn so information can be 'retrieved' more easily from your memory
- Try talking through the problem
- Watch videos with animation and voiceovers

How will using the Cognitive Load Theory affect your learning?

- Improve your long-term memory and knowledge
- Learn new skills more easily
- Remove unnecessary distractions
- Reduce anxiety and feelings of being overwhelmed

**Don't overload your brain when you want to learn more efficiently**

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# Flipped Learning

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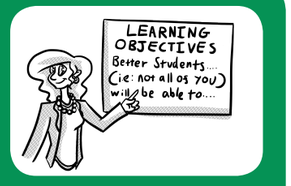


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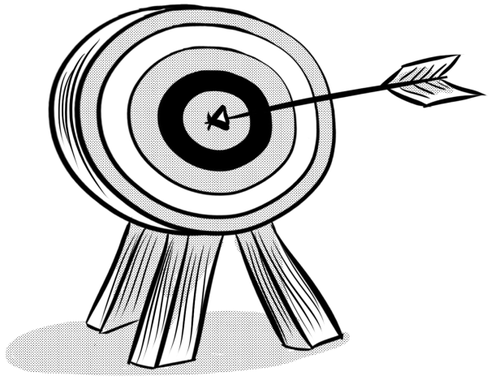


Flipped learning is the pre-lesson preparation, reflection and questioning that pupils undertake to help inform a teacher's planning. (Mazur, 1997)

## How does it work?

Prior to a lesson, a teacher could direct you towards specific resources (often online media) that you need to digest and respond to.

## How to prepare for Flipped Learning

- Research the topic area
- Make notes on the key points
- Watch videos with friends and discuss the key themes
- Complete any pre-class tasks and note down any questions
- Write your own revision questions (with answers) based on what you have learnt
- Produce a mind map showing the connections between different concepts

## What could your teachers ask you to do?

- They may tell you what topics are coming up in the next week and you can do some pre-lesson work
- They could ask you to read around an issue and then use the thinking hard templates to transform your learning
- They may give you videos to watch and to make notes from

**Being proactive means taking responsibility for your life and actions rather than just watching how things happen.**

# How can it help you?

- You attend the lesson with a great deal of knowledge and many questions, ready to further your understanding
- You are in control of your learning and performance
- It improves your questioning skills
- You become independent with your learning
- You can support each other to learn
- Technology can enhance your learning experience
- It makes lessons more purposeful to you
- You have more time to discuss complex concepts during lesson time
- You are able to apply your learning through problem solving and participation in collaborative tasks

**Preparation is very important if you are to get the most out of a flipped learning opportunity.**

# Be proactive!

- Think ahead to the next lesson or topic
- Take action rather than wait for your teachers to tell you
- Focus on prioritising your work
- Set yourself some realistic goals
- Participate actively in your learning and out of lessons
- Stay consistent and be motivated

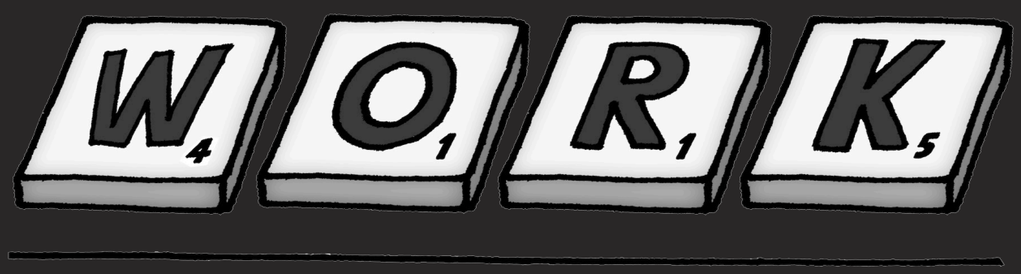
# Summary

Find out what your next topics will be by asking your teachers.

Look out for media or activities which could help you understand new topics.

Identify key questions to ask in the lesson.

Prepare for your next lesson by being proactive and making notes.

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# Chunking Technique

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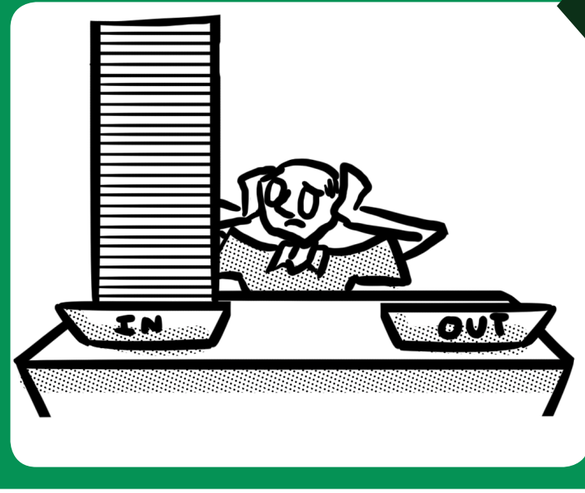
## What is it?




- It is a technique which can improve your memory
- Chunking is the process of taking individual pieces of information (chunks) and grouping them into larger units

**The power of chunking to help you learn**

- Your memory system becomes far more efficient
- It helps you to recall the relevant information in your exams
- Information becomes easier to retain and recall
- It improves your creativity

## Top Tips

**1. Practice:**

Challenge yourself to remember lists of things, whether a shopping list, vocabulary words or important dates.

As you become better at remembering larger chunks of information, continue to challenge yourself to remember even more.

**2. Look for Connections:**

As you are creating groupings, look for ways to relate them to each other in meaningful ways.

Think about what they have in common and what makes sense.

**3. Associate:**

Linking groups of items to things from your memory can also help make things more memorable.

**4. Incorporate other Memory Strategies:**

For example, you might use mnemonics as a way to chunk different units of information. If you need to remember a list of things—such as buying figs, lettuce, oranges, apples, and tomatoes—you can create a word out of the first letters – e.g. “FLOAT”.

Once you remember the keyword, you will then be better able to recall the items represented by each letter of the acronym.

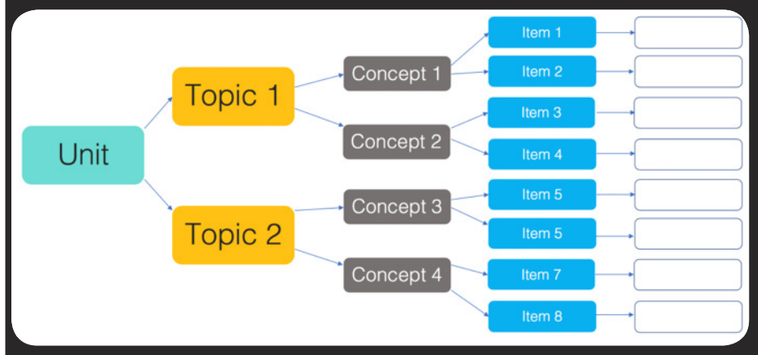
**5. Separate your revision**

Separating revision into relevant sections can help you digest everything and remember it more easily.

Creating links between different bits of information and putting them in meaningful categories can help you remember them better.

## The Process

1. Break down larger amounts of information into smaller units.
2. Identify similarities or patterns.
3. Organise the information.
4. Group information into manageable units.




Use HEADINGS and TITLES for different sections

Use TABLES to summarise LARGE AMOUNTS of DATA

Use BULLET POINTS to summarise and CLARIFY IMPORTANT POINTS

Combine quick ILLUSTRATIONS with TEXT to create VISUAL ASSOCIATIONS

## Are you ready?

| FOCUS | UNDERSTANDING | CONTEXT |
|---|---|---|
| Chunking requires YOUR attention on the learning | You need to fully understand information before chunking material | You need to go beyond understanding the initial problem or concept and seeing when, where and how to apply it |

**Form Patterns. Develop your tactics. Make connections.**

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# Keeping Active

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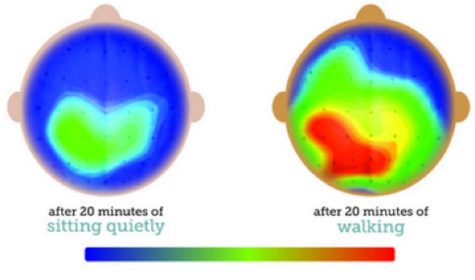
# How can it help?



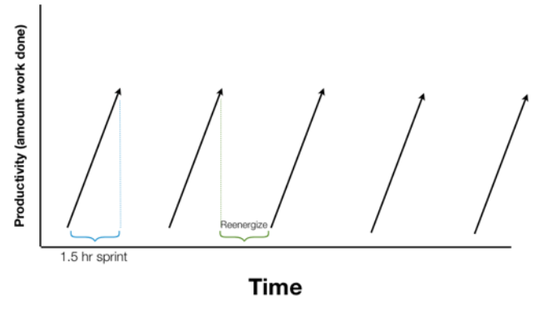

**Red** areas are very active;
**Blue** areas are least active

- Boost your memory
- Improve your concentration
- Help reduce stress
- Lengthen attention span
- Improve cognitive brain function
- Improve your ability to focus for longer periods of time

Physically active students have more active brains.

# How can I fit it in?

1. Schedule regular breaks during your revision. This could be 60 minutes of revision, followed by a 10-minute break. Exactly what schedule is best varies from person to person.
2. Use your break for something relaxing and refreshing, but which won't distract you from getting back to work.
3. Do something that involves getting up from where you're revising and moving around.




Your brain uses up more glucose than any other bodily activity. Typically, you will have used most of it after 60-90 minutes.

So take a break, get up, go for a walk, have a snack, and do something completely different to recharge.

# It can even help in Exams!

Exercise triggers the release of various hormones and chemical compounds in the body.

Serotonin – involved in regulating your sleep cycles and boosting your mood.

Norepinephrine – affects motivation and mental stimulation

Dopamine – positively influences learning and your attention span

# Why take breaks in Revision?

- You're less likely to get distracted while you are revising
- It's much better to spend 60 minutes revising well and 10 minutes on a break than to spend longer, with half the time revising and half playing with your phone.
- Breaks actually make you work more effectively. After all that mental work, your brain needs a rest.

# Find a routine for you

Be flexible. Fit your exercise around your revision timetable, and find what works for you.

Shorter intense exercise is great during the exam period as it doesn't take too long.

Take regular walks during the day to help you stay fresh and active.

# Top Tips

- Exercise regularly
- Eat well
- Sleep well
- Relax often
- Socialise and connect with others
- Take time out for you

**Exercise helps to oxygenate the brain and release tension, helping you to keep calm, mentally relax and study more efficiently.**

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