

# Helping young people to study



***"The effect of parental engagement over a student's school career is equivalent to adding two or three years to that student's education."***

John Hattie, *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating to Achievement*

## 1. Mindset



## 2. How we learn



## 3. Effective Techniques



# 1. Mindset Matters



Stanford University Professor, Carol Dweck, discovered some people see intelligence or ability as fixed, while others recognise these can be developed: a growth mindset.

Her 2-year study of several hundred children revealed those with **growth mindset** increased their grades, while those with a **fixed mindset** did not.

Scientists can now observe how these different ways of thinking affect our brains.

Brain scans show that with **fixed mindset**, the brain is most active when receiving information about **performance**.

With **growth mindset**, the brain is most active when receiving information on **how to improve**.

In other words, people with a **fixed mindset** worry about being **judged**, while those with a **growth mindset** focus on **learning**.

Managing our mindset is essential to success in learning. A fixed mindset can trap us into beliefs and habits that lead to frustration and underachievement.

**Fixed mindset** can lead us to think that **putting in an effort is something necessary only for people with low ability** while those with a **growth mindset** see effort as **the way everyone can improve**.

# 29 famous people who failed before they succeeded

Think of the many accomplished people dismissed by “experts”, who worked hard and became highly successful. When we realise we can improve our abilities, we raise our achievement to a greater level.

**Steven Spielberg was rejected by the University of Southern California School of Cinematic Arts multiple times.**

He went on to create the blockbuster, *Jaws*, in 1975, has won 3 Academy Awards, 4 Emmys, 7 Daytime Emmys, and his 27 movies have grossed more than \$9 billion.



INDEPENDENT



When they hit a setback, people with a fixed mindset infer it's because they're not capable. To protect their ego, they often lose interest or withdraw. The fixed mindset takes away motivation.

In contrast, people with a growth mindset understand that setbacks are part of growth. So, when they hit one, they find a way around it.

FIXED MINDSET		GROWTH MINDSET
<ul style="list-style-type: none"><li>• SOMETHING YOU'RE BORN WITH</li><li>• FIXED</li></ul>	SKILLS	<ul style="list-style-type: none"><li>• DONE FROM HARD WORK</li><li>• CAN ALWAYS IMPROVE</li></ul>
<ul style="list-style-type: none"><li>• SOMETHING TO AVOID</li><li>• COULD REVEAL LACK OF SKILL</li><li>• TEND TO GIVE UP EASILY</li></ul>	CHALLENGES	<ul style="list-style-type: none"><li>• SHOULD BE EMBRACED</li><li>• AN OPPORTUNITY TO GROW</li><li>• MORE PERSISTENT</li></ul>
<ul style="list-style-type: none"><li>• UNNECESSARY</li><li>• SOMETHING YOU DO WHEN YOU ARE NOT GOOD ENOUGH</li></ul>	EFFORT	<ul style="list-style-type: none"><li>• ESSENTIAL</li><li>• A PATH TO MASTERY</li></ul>
<ul style="list-style-type: none"><li>• GET DEFENSIVE</li><li>• TAKE IT PERSONAL</li></ul>	FEEDBACK	<ul style="list-style-type: none"><li>• USEFUL</li><li>• SOMETHING TO LEARN FROM</li><li>• IDENTIFY AREAS TO IMPROVE</li></ul>
<ul style="list-style-type: none"><li>• BLAME OTHERS</li><li>• GET DISCOURAGED</li></ul>	SETBACKS	<ul style="list-style-type: none"><li>• USE AS A WAKE-UP CALL TO WORK HARDER NEXT TIME</li></ul>

# 3 things we can do to cultivate growth mindset in our children



**1. Talk to your child about growth mindset.** Explain that neuroscience shows the brain responds like a muscle: the more we train it, the stronger it becomes. Learning that challenges us is good – not something to be avoided!

**2. Be alert for the fixed mindset voice and when you hear it, challenge it!**  
If you hear, "I can't do it," add, "yet."

Be careful how you speak about yourself. Avoid saying, "I'm rubbish at ..."  
When you struggle to do something, explain to your children that trying hard helps us grow.

Praise the effort your child puts in.

Be kind and honest in times of failure: keep the focus on their effort. If they tried their hardest but did not succeed, encourage them to find out what they didn't understand and put that right with their teacher's help.

**3. Encourage your child to use effective learning techniques.** Through understanding how best to develop their abilities, young people start to believe in themselves and take charge of their own learning and achievement.

Grange Academy's 4 Steps to Success (Understand, Condense, Memorise, Review) booklet is on the school website and information about effective study techniques is included later in this presentation.

## 2. How We Learn



Encoding – introduced to new information = uploading



Storage – we need to store that information in a way we can find in again



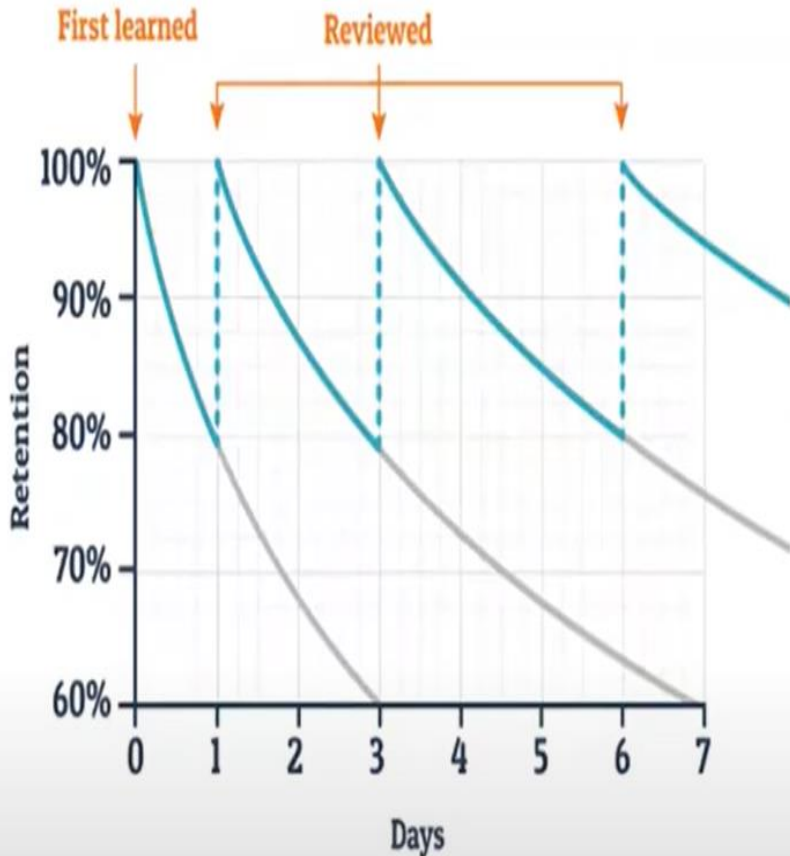
Retrieval – accessing that stored information = downloading it



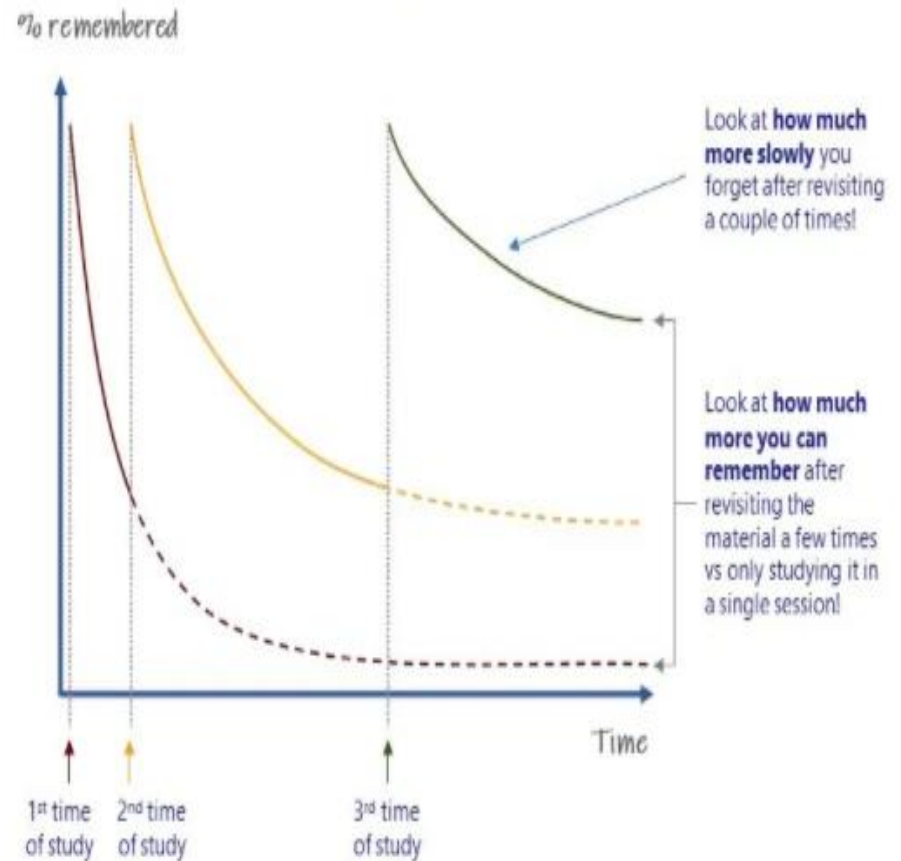
# Why is retrieval important?

**Ebbinghaus' forgetting curve shows** how information is lost over time when you don't try to retain it. Re-studying the material at intervals means you can remember much more, for much longer.

Typical Forgetting Curve for Newly Learned Information



OVERCOMING THE FORGETTING CURVE: SPACED LEARNING





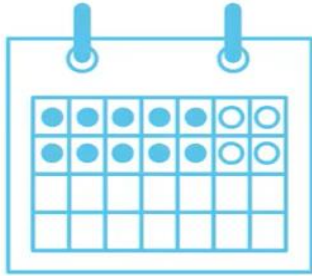
### 3. Effective Techniques

“Students should practice **not** by trying to *put information into* their brains, but by trying to *take information out*.”  
Dr. Pooja Agarwal



Ineffective	Highly Effective
Last minute cramming	Starting early, planning and spacing study out
Simply re-reading/ copying out notes	Using notes, textbook or flashcards to test yourself or be quizzed by others
Simply highlighting text	Using key concepts highlighted to create study aids such as flash cards or a mind map to use in self-testing or quizzing by others
Studying one topic always in the same order	Interleaving (mixing up) topics raises the challenge and the extra effort aids memory and understanding.
Listening to music	Reducing distractions as much as possible is better for focus.
Using (visual, auditory or kinaesthetic) preferred study styles	Fine as a motivation to start study, but not an effective technique in itself.
Spending a lot of time studying	Spacing revision in small, regular chunks, interleaving different topics when revising and switching between them is far more effective.
Repeating the study routines we are comfortable with	Raising the challenge to create “desirable difficulties” makes you think harder, understand and remember better.

# Which methods work best? 1. Spacing



Start planning early for exams, and set aside a little bit of time every day. Five hours spread out over two weeks is better than the same five hours all at once.

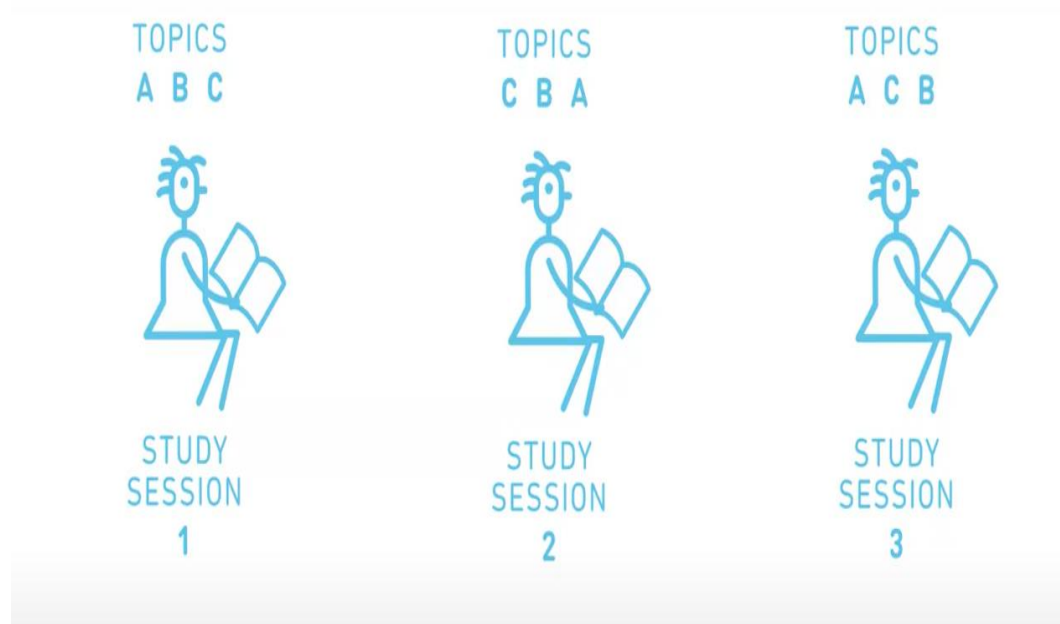
Review information from each class, but not immediately after class.

After you review information from the most recent class, make sure to go back and study important older information to keep it fresh.

This may seem difficult and you may forget some information from day to day, but this is actually a good thing! This forces you to retrieve information from memory.

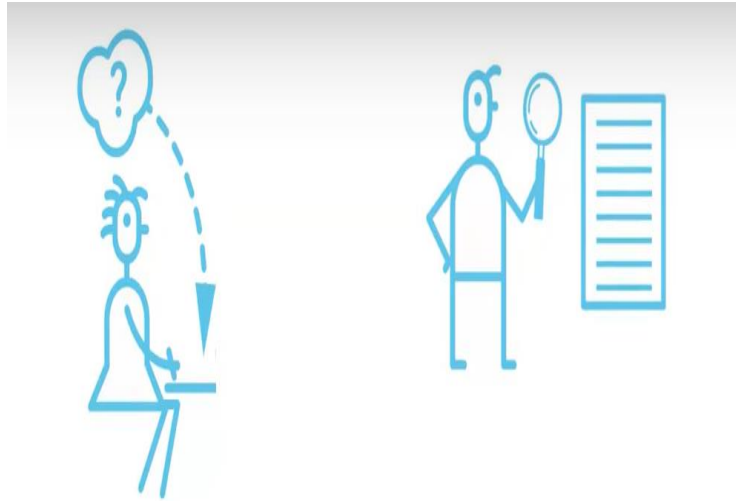


## Which methods work best? 2. Interleaving



Go back over the ideas or topics in a different order to strengthen recall and understanding.

## Which methods work best? 3. Quizzing & Testing



Create quizzes using questions your teachers have given you.

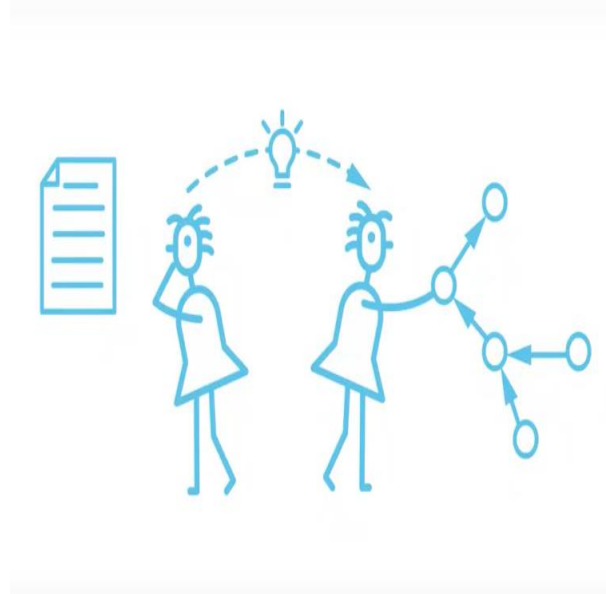
Create your own quizzes using textbooks or notes.

Mix up the topics (interleave) to increase the difficulty!

Ask a friend or relative to test you.

Check your answers against those in the textbook/your notes/your teacher to see what you got right and where you need to focus now.

## Which methods work best? 4. Dual Coding (using images and words)



You can strengthen your understanding and recall of concepts by expressing them in different ways. For example, converting text to pictures, a mind map, flowchart, timeline or infographic. Or you might look at a visual representation and describe it in your own words. Working with the information has a more powerful effect than just looking at it. This can also help your brain make links in your learning.

## Which methods work best? 5. Brain Dump



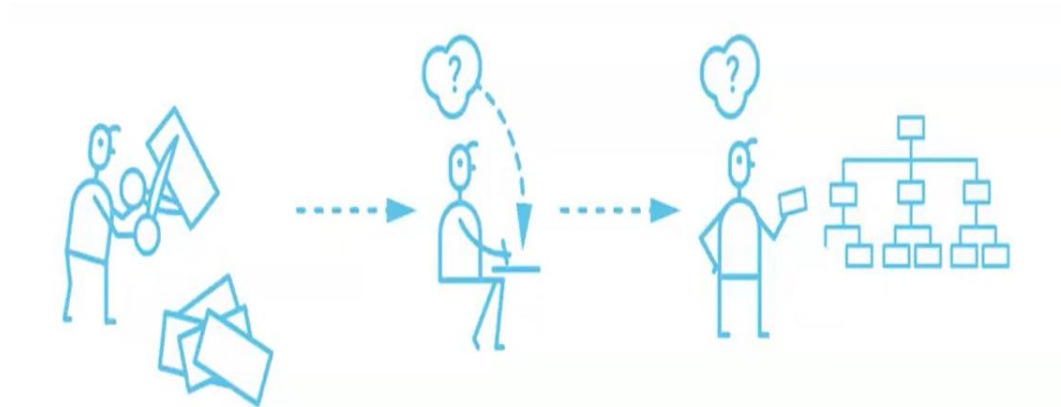
Try putting your notes away and see how much you can remember on a topic. Write it down or draw it.

Then check your notes to see how accurate you were and what you missed out.

List the areas you need to understand or remember more clearly.

Take appropriate action - e.g. read your notes to fill in the gaps and/or ask your teacher to go over these areas with you again.

## Which methods work best? 6. Flashcards



Make flashcards (revision cards) of key information using your textbook or notes so you know they are accurate.

Test yourself or get a friend or relative to do this.

Think about the links between the information on each card – i.e. how are concepts or topics related to each other?

The Science Faculty is using Quizlet. Have you tried it?



# Takeaway Learning for young people



## Your mindset matters

Professor of Educational Psychology, Kristin Neff, says, "When life's a battle, who do you want inside your head? Do you want an enemy who's cutting you down, or do you want an ally who says, 'I've got your back?'"

Be your own ally. Coach yourself with kindness through the challenges of your learning. Believe that you can achieve and put in your best effort.

Look after your wellbeing by eating well, getting 8 hours sleep, drinking water and taking regular breaks. If you feel things are getting on top of you, talk to your parents, friends and teachers, try getting outdoors for some exercise or do a short mindfulness practice (e.g. from the Headspace app).



## Not all study techniques are equal: use efficient, effective ones.

Don't just do what makes you feel comfortable; challenge yourself with tests and quizzes until you can understand and retrieve key information with ease.

Try the techniques in this presentation. You may also enjoy the short videos at <https://www.learningscientists.org/videos>.

We have School Captains and a Prefect Team dedicated to Study Skills, so look out for their activities and ask for help if you need it.