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# “Making it Stick”

## Objectives:

- To understand how learners learn
- To recognise the importance of making this explicit to students
- To consider how, by working in line with the brain, we can boost retention
- To expand our revision strategy toolkit



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# “Making it Stick”

Why?

- You will be responsible for progress – making it stick is as important as content!
- Do students know how to learn/revise?
- If we understand how we learn then surely we will make our lives and those of our students easier

# 3 Types Of Memory

- **Working Memory**

Memory used to plan and carry out behaviour

Making a cake – don't add the same ingredient twice

- **Short Term Memory**

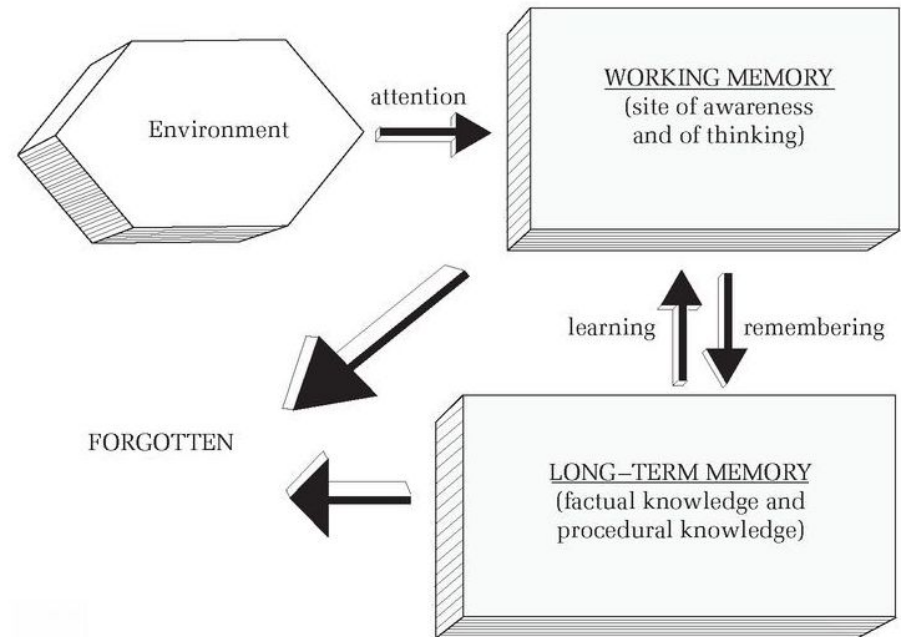
Limited amount of information

Information temporarily accessible

- **Long Term Memory**

Vast storage of knowledge

**THIS IS WHERE WE WANT TO REACH!**



**BUT HOW?**

# Connection Task:

Based on your thoughts on the video, discuss:

- What implications does this research have for our teaching?
- What could our SOW look like?
- What should a lesson look like?
- What activities could we use in the “review”/consolidate section of a lesson? The idea of these activities would be to quiz/test/make students recall their learning during the lesson.

<https://m.youtube.com/watch?v=XpaGbzCWVv8>

# Spacing and Interleaving



## Spacing

- Leave time to forget – the more difficult it is to retrieve the information the more it sticks
- Revisit multiple times
- Homework – ideal opportunity to do this



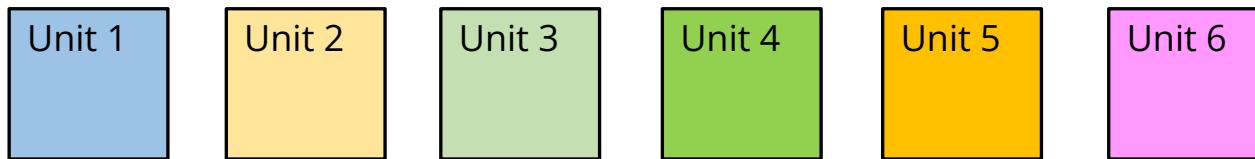
## Interleaving

- “Interweave” topics – don’t just concentrate on one at a time
- Goes hand in hand with spacing
- Homework – ideal opportunity to do this

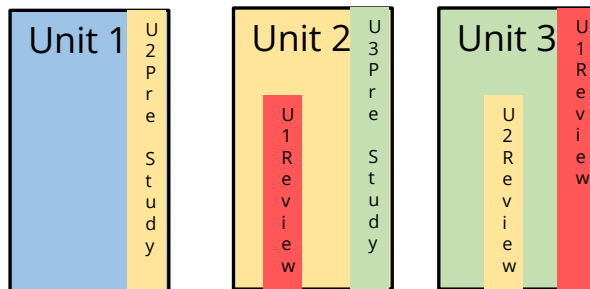
<https://bjorklab.psych.ucla.edu/research/>

# What implications does this have for our SOW?

## Traditional Model – Traditional Y7 Curriculum Map



## Spacing and Interleaving Curriculum Map – Y7



- What model does your SOW follow?
- What skills and content do students need to 'master' in your subject by the end of Yr 11?
- What are the problematic areas/misconceptions which need to be revisited more often?
- How/when will we do this?
- Do we need to stick to half terms?
- Pre and Post study/review is scientifically proven to progress learning and achievement – How do we make this happen?
- Could homework be incorporated in your plan?

# Quizzing/Reviewing/Testing

**Professor Roddy Roediger** –  
research into human  
learning and memory.



**“Retrieval Practice”**  
**“Testing Effect”**

“The actual act of retrieving the information over and over, that’s what makes it retrievable when you need it.”

Group 1: studied 60 pictures for 20 minutes.	<b>16</b>
Group 2: studied 60 pictures and quizzed once during 20 minutes.	<b>21</b>
Group 3: 3 quizzes during 20 minutes.	<b>32</b>



“When learning is successfully retrieved from memory, its representation in memory is changed such that it becomes more recallable in the future.”

**RA Bjork 1975**

“The improvement is often greater than the benefits resulting from additional study.”

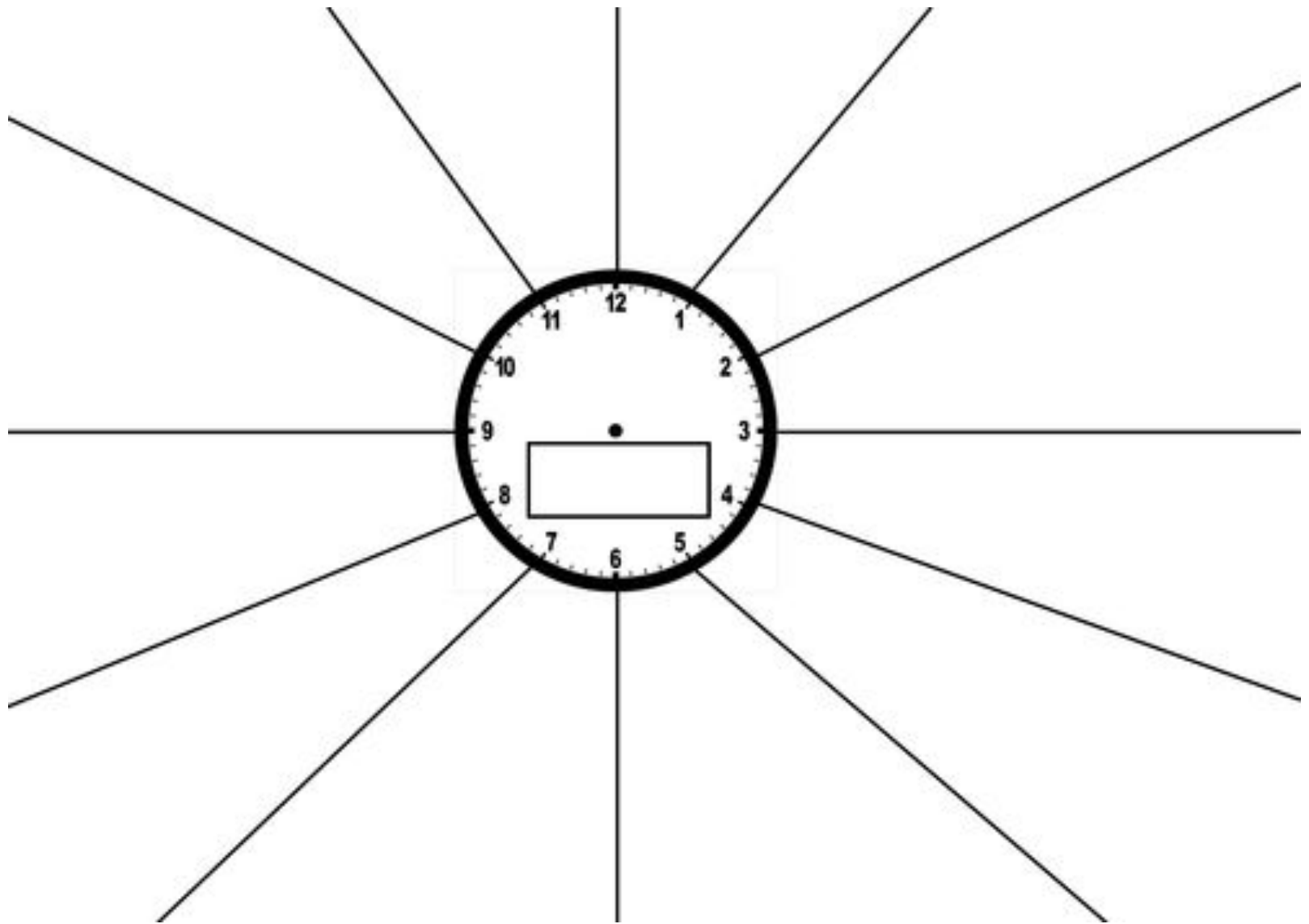
**Roediger and Karpicke 2006**

## **Conclusions**

- We need to quiz/test more
- The final part of a lesson could be used more effectively (in most instances)
- Quizzing/testing goes “hand in hand” with spacing and interleaving

**Time to expand our toolkits  
and make revision more  
fun!**







# The Cornell Method

## Cues

Question, main points, visual clues and other clues which jog memory go here.

Fill this section in after class or task.

## Notes

This is the section where you should take your notes during the course of the lesson. Use bullets, sentences etc.

## Summary

Most important points and main ideas go here. Fill in this section after the lesson when you are reviewing the process. REDUCE!





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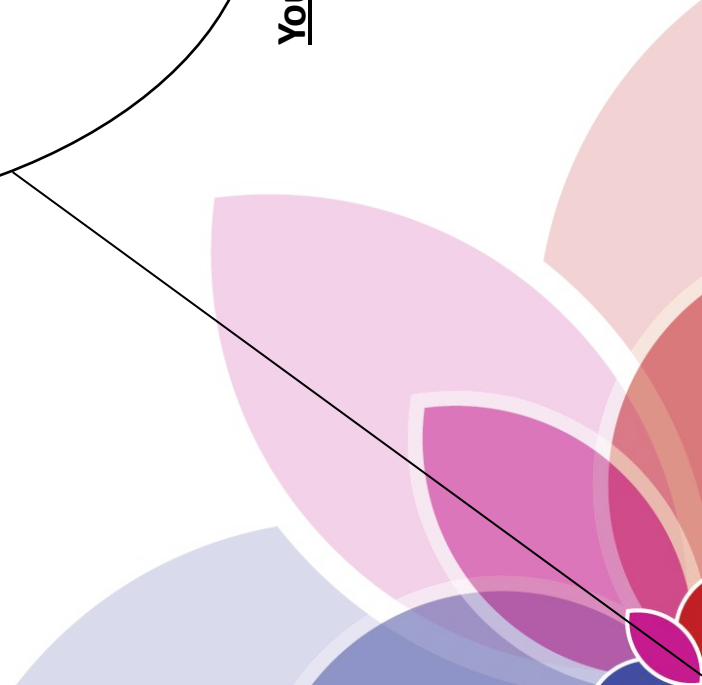
Your Thoughts

Group Response

Your Thoughts

Your Thoughts

Your Thoughts



# Categories – [topic]



1. [word]
2. [word]
3. [word]
4. [word]
5. [word]
6. [word]
7. [word]
8. [word]
9. [word]
10. [word]

- Give students a topic. They have to write down as many key words for that topic as possible within a given time limit FROM MEMORY. (I often use 1 minute but do several topics as part of one activity).
- Once the timer has gone, reveal your own ten words for that topic
- Students only score a point if they have the same word as you – so a maximum of 10 points
- If you do several as one activity, they can then score a grand total at the end





# Categories - Food

1. Bread
2. Pizza
3. Ham
4. Chips
5. Yogurt
6. Apple
7. Banana
8. Cake
9. Chocolate
10. Carrots



# 5 Lists In 5 Minutes



- In pairs/teams you have exactly 5 minutes to list your knowledge under the 5 headings given to you by your teacher.
- Max 10 items per list – complete all lists in the time given.
- At the end of 5 minutes you will present your lists to the rest of the class.
- 1 point for each item of relevant knowledge on each list.
- 2 points for each relevant item which no other group has included on their lists.

How many points can you score?



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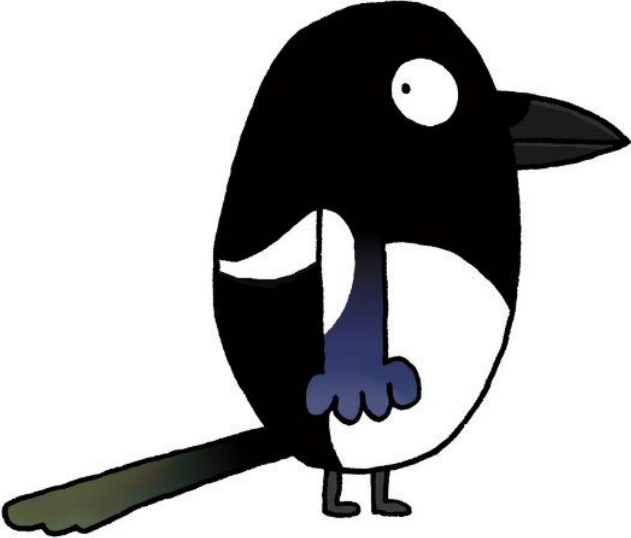
# Magpie Cards

1. Complete the revision question task/question to the best of your ability on your own – FROM MEMORY.
2. When you hear your teacher call “magpie”, take your card and discuss the task with 3 different people. Note down any extra ideas you gain on your card. Return to your seat and improve your answer with this information.



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# Magpie

	Extra information
	



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# Square it!



1. Fold your piece of paper into 8 equal squares (like a perfect bar of chocolate!)
2. Look at the question/topic and mentally recall everything you know about it.
3. Circulate the room and find out eight different things about the topic from eight different classmates. Every time you receive a piece of information, record it on one of your squares.
4. At the end of this activity a whole class discussion will take place.



# Show Down!

## Instructions:

1. Sit in a group and nominate a “showdown captain.”
2. Read the question – What makes revision effective?
3. In silence, answer the question on a piece of paper.
4. When the captain calls out “show down”, each person should reveal their answer, reading it aloud.
5. Discuss your answer. Coach anyone who struggled (help improve their response). Come to a consensus about what an excellent answer should look like.



# Inside/Outside Circle

1. Form pairs.
2. One person from each pair moves to form one large circle facing outwards.
3. Remaining persons find and face your partner (you should now be standing in two concentric circles).
4. The inside circle will ask their partners a question from your question card; outside circle partners will answer.
5. Hints are provided on the cards so questioners can 'coach' the answer. Praise or coach your partner.
6. Partners switch roles: outside partners ask, listen, then praise or coach.
7. Partners trade or swap question cards.
8. Inside circle rotates clockwise to a new partner.

# Key messages:

- Spaced learning (forgetting time and revisiting) are key to making information stick.
- Quizzing/testing/making students recall information is the most effective way of helping them commit information to their long term memory.
- Quizzing/testing needs to be:
  - Novel
  - “Safe” (thinking time, non threatening)
  - Collaborative
  - Structured to ensure accountability
  - Fun



# Follow up Task

- Using the resources provided on slides 10 onwards, work with a partner to create a quizzing / revision activity which can be used in a lesson in the next week.
- This should be linked to a specific group / scheme of work / topic.
- Put the resource on a PPT slide and email to Louise Quinn by Monday 6 November.





# Reflection

1. What do you currently do in your practice that will benefit others in quizzing?
2. What changes do you plan to make to your teaching this week?
3. How will you space learning?
4. How will you use the last 10 minutes of your lessons?
5. How will you make quizzing (revision) fun?

