

# Retrieval Practice: Research & Research for every classroom

Kate Jones

# About me ...

Experienced teacher and leader

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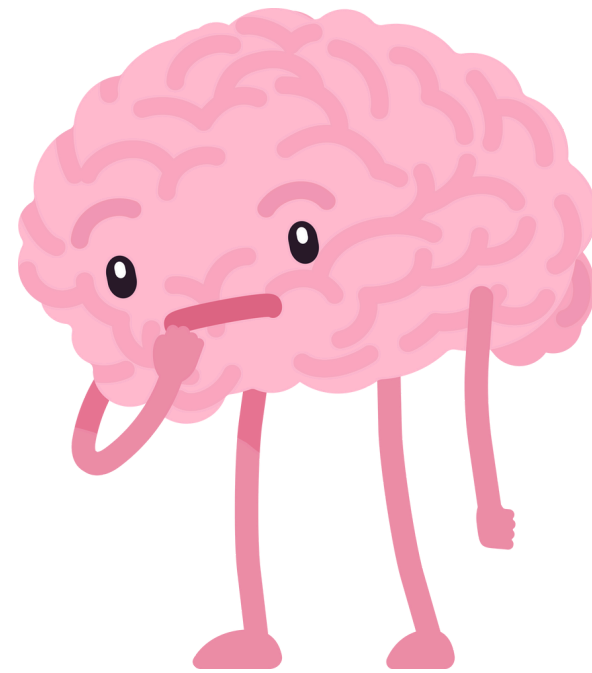
@KateJones\_Teach on social media



Turn & Talk:  
How would  
you describe  
your memory?



Shoutout to  
everyone who can  
still remember  
their childhood  
phone number but  
can't remember the  
password they  
created yesterday.  
You are my people.



MY ABILITY TO  
REMEMBER SONG  
LYRICS FROM THE  
80S FAR EXCEEDS  
MY ABILITY TO  
REMEMBER WHY I  
WALKED INTO THE  
KITCHEN.

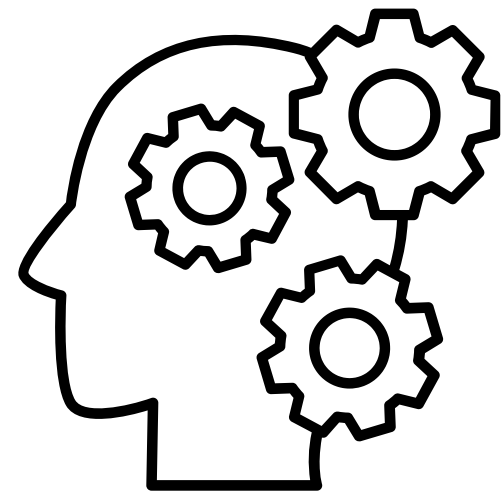


# The Learning Process

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Arthur Melton

Attention &  
Encoding

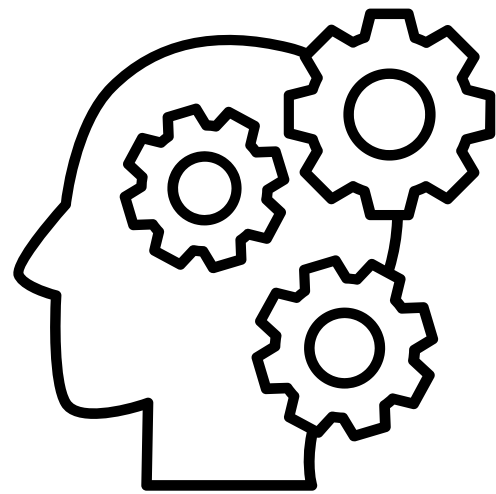


# The Learning Process

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Arthur Melton

Attention &  
Encoding



Storage

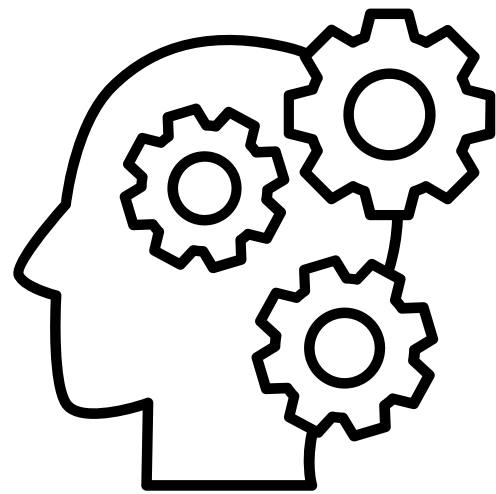


# The Learning Process

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Arthur Melton

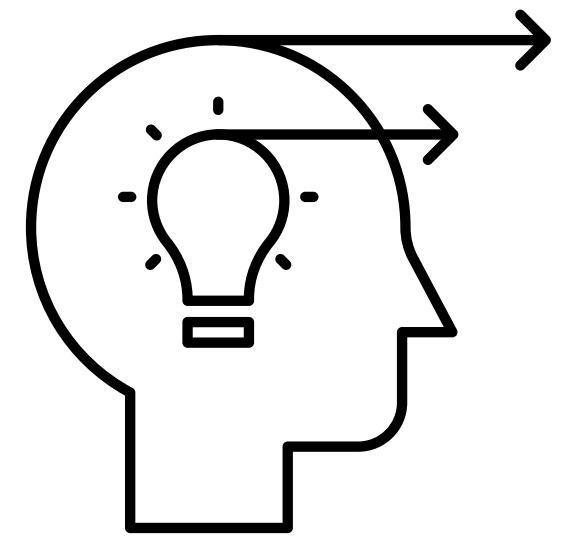
Attention &  
Encoding



Storage



Retrieval



# The Learning Process

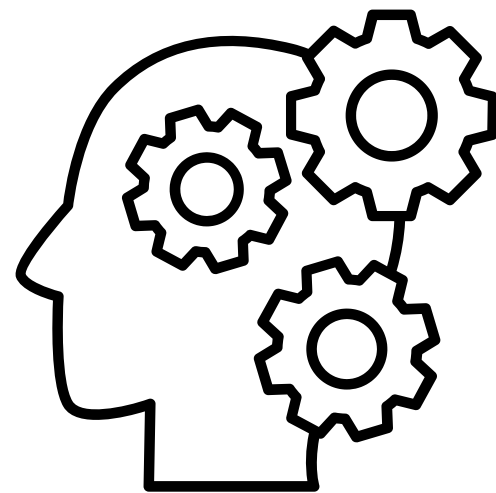
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## Updated (2024)

Attendance



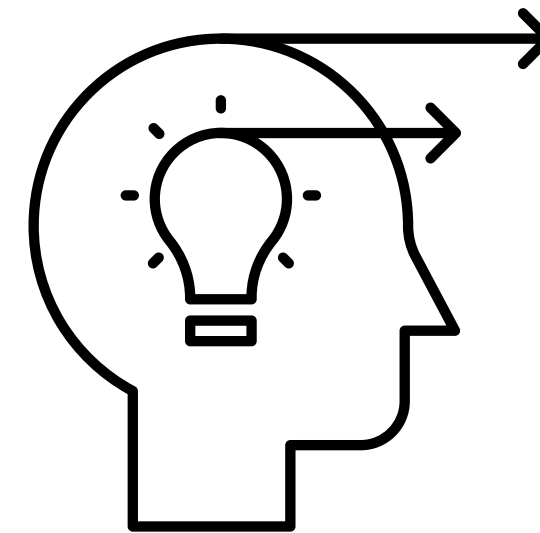
Attention &  
Encoding



Storage



Regular  
Retrieval



Application  
& Transfer



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Successful encoding is  
vital for successful  
retrieval practice.



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Are your students aware  
of working memory and  
long term memory?





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Are your students aware  
of working memory and  
long term memory?

Do your students  
understand how learning  
happens?



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“For almost all studies reviewed, possible values for effect sizes are in a positive direction, indicating a consistent benefit from retrieval practice on student learning.”



Retrieval Practice Consistently Benefits Student Learning: a Systematic Review of Applied Research in Schools and Classrooms. Professor Pooja K Agarwal et al. (2021)

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"The retrieval practice evidence base suggests that testing learning is often a better strategy for learning than restudying or recapping the same information."



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"The results showed that covert retrieval enhances learning to a small but significant extent, and its effectiveness is moderated by several factors including provision of corrective feedback, control strategy, and retention interval."



"Younger children need more explicit guidance, cues and scaffolding for the initial retrieval task."



# Target Memories





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Make the distinction  
clear between the  
need to know and  
nice to know.



**TEACHER SAYS**

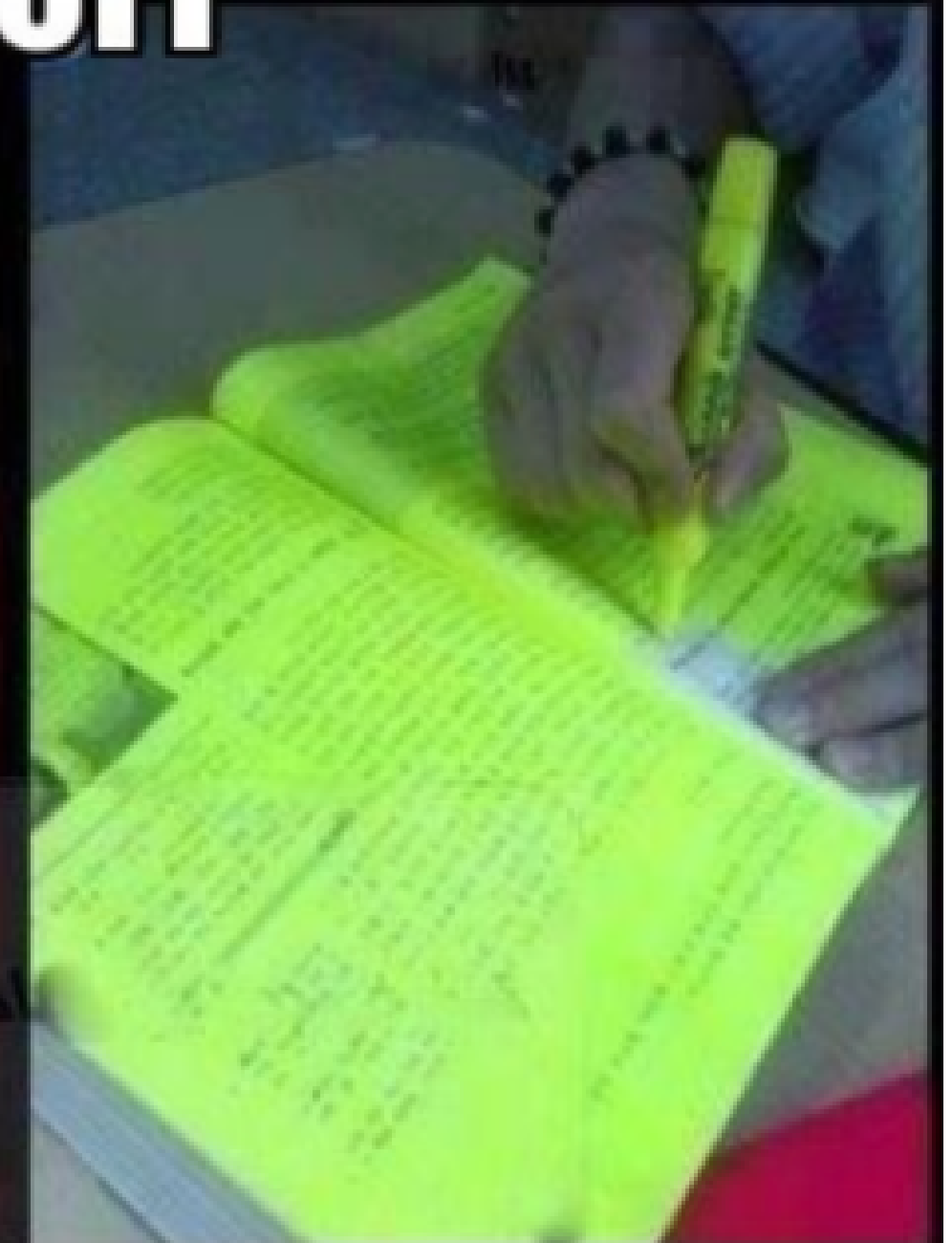


**HIGHLIGHT ONLY THE  
IMPORTANT PARTS**

**HIGHLIGHT IMPORTANT  
STUFF**



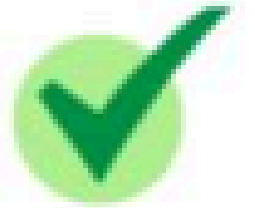
**EXPECTATION**



**REALITY**



# Exit Ticket



**Write down three things you found out this lesson ...**

**1.**

**2.**

**3.**



## Exit Ticket



Q1. What is a hazard?

Q2. What safety precautions should be taken when using a bunsen burner?

Q3. What safety precautions should be taken when using acids?



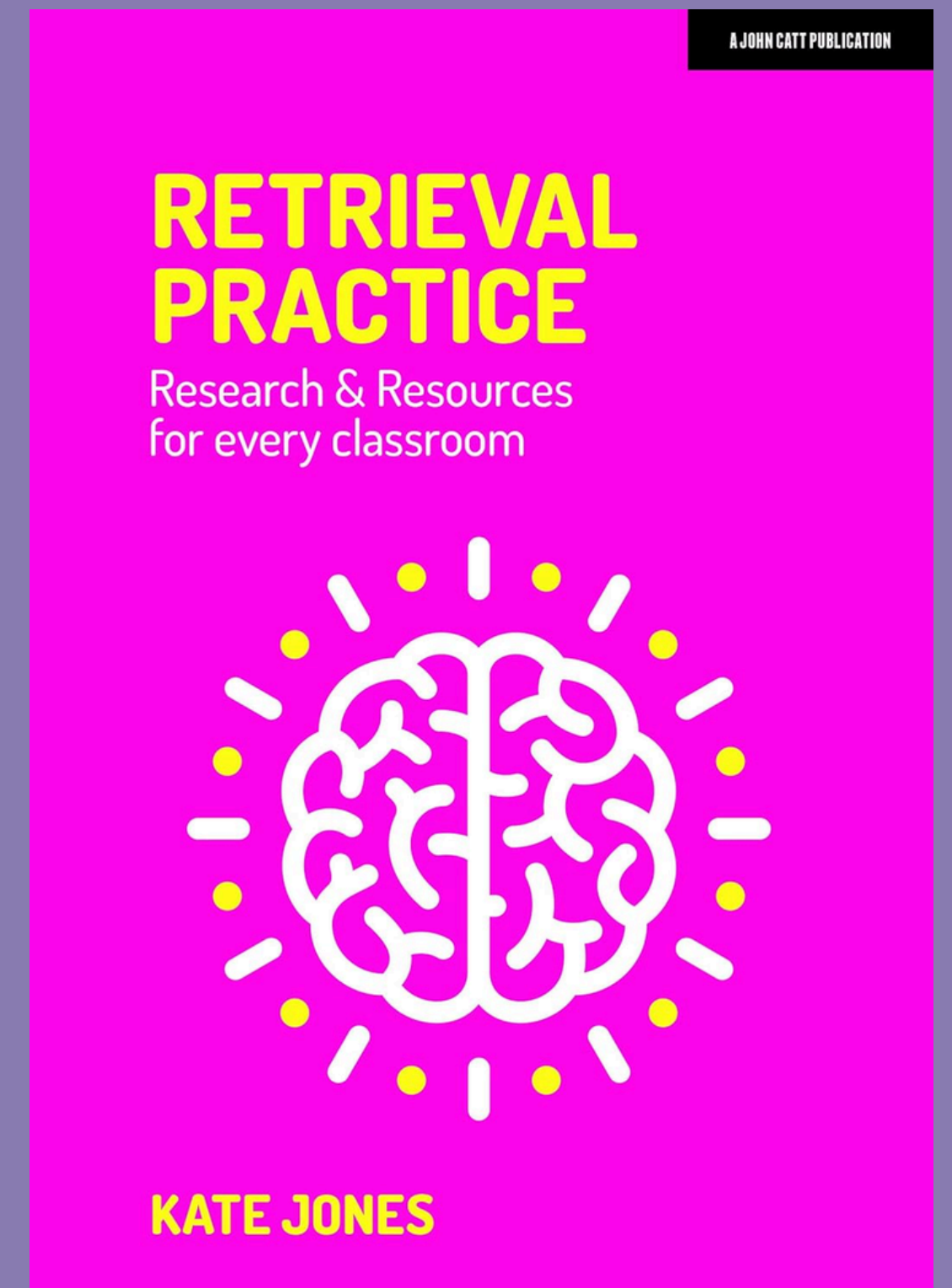
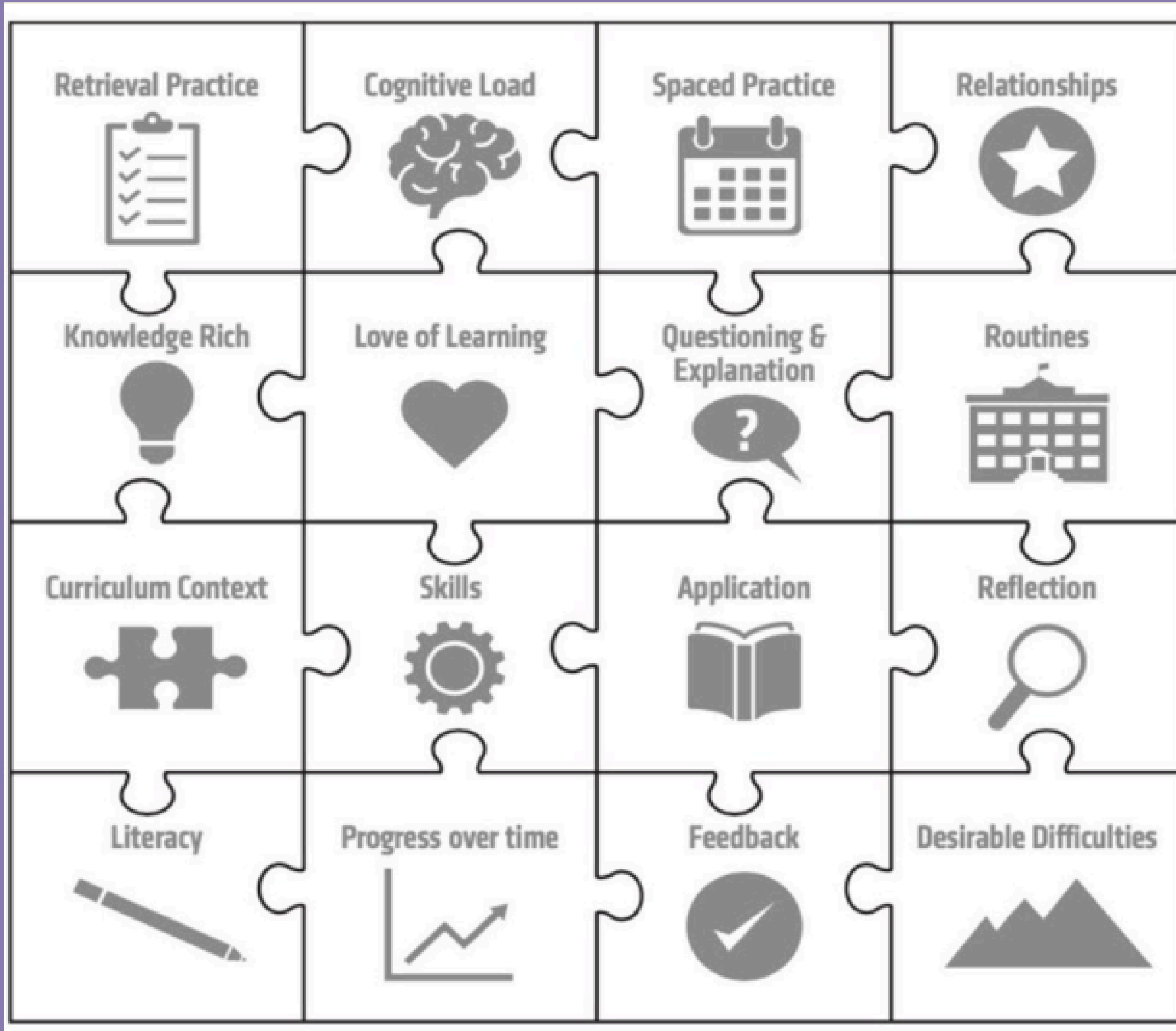
## Entrance Ticket



Q1. What is a hazard?

Q2. What safety precautions should be taken when using a bunsen burner?

Q3. What safety precautions should be taken when using acids?





# Retrieval Practice in the classroom



# Multiple Choice Questions

*Q) What is  $5 \times 10$ ?*

*A) 15*

*B) 50*

*C) 500*

# Multiple Choice Questions

What was the name of Juliet's cousin in  
Romeo & Juliet?



Benvolio

Tybalt

Mercutio

I don't know yet

## Multiple Choice Question

*Read the question carefully, then highlight what you think is the correct answer.*

## Elaboration

*Do you know anything else you can add that is linked to this question? Any further information can be included in this column.*

Q1) What year did WW2 begin?

- a) 1914
- b) 1939**
- c) 1945
- d) I don't know yet

*I know that WW2 started in 1939 and lasted six years because it ended in 1945. In 1945 people celebrated VE day in the UK with lots of parties and celebrations in the streets.*



**Which of the following is a metal?**

Iron

Nickel

Copper

All of the above



Which of these battles took place in 1066?

Battle of Britain

Battle of Dunkirk

Battle of Bosworth

None of the above



# Cued Recall

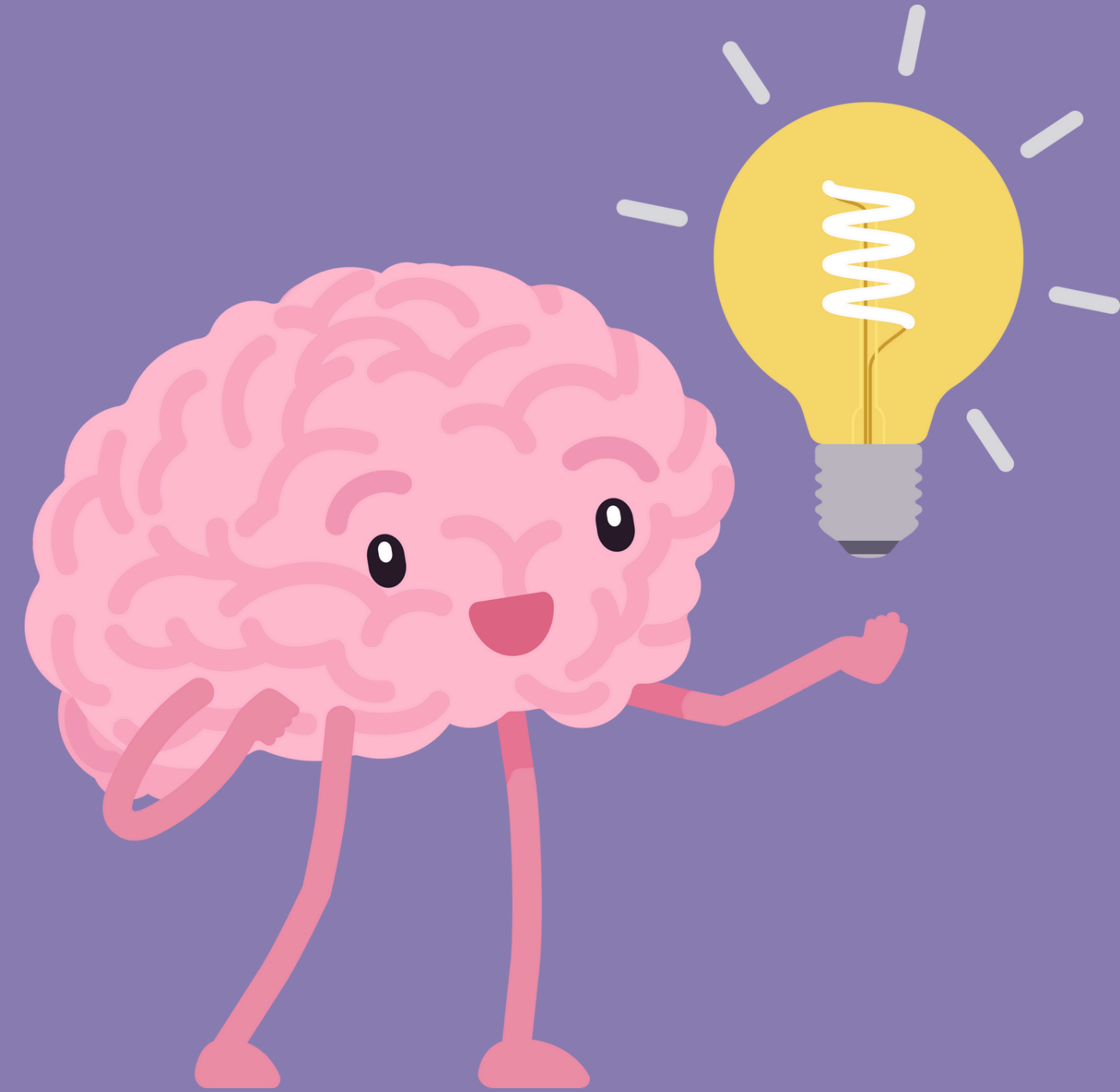


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"The key to good retrieval is developing effective cues, ones that will lead the rememberer back to the encoded information."



# Encoding Specificity Principle







# Tourism:



Tourism brings **money** into the country & can be good for the economy.

Tourism has led to an increase in **flights** and carbon dioxide pollution.



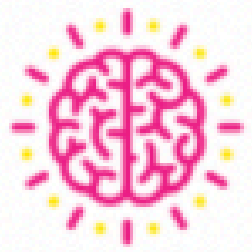
Tourism can contribute to **pollution** and negative impacts on the local **environment**.



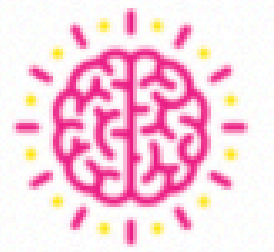
Tourism can create a lot of **jobs** for people, home and abroad.

Tourism can increase **traffic**, especially in city destinations.





# Cued Recall: Picture Prompt



Task: Explain how each image is connected to our topic - tourism.

Explain in your own words, from memory.

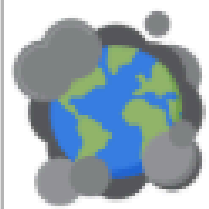
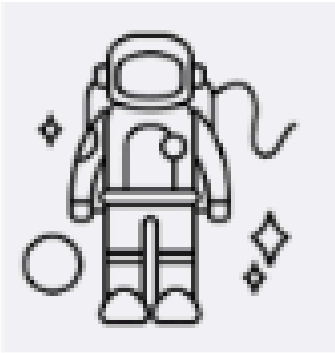


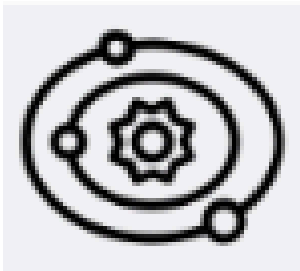


Image	How does each image link to our topic of planets? Explain from memory what you can remember.
	
	
	
	

Cues can be pictures, words, displays or verbal prompts from the teacher/peer.



# Cue Cards or Lists

Mountains

Tourism

Valley

Summit

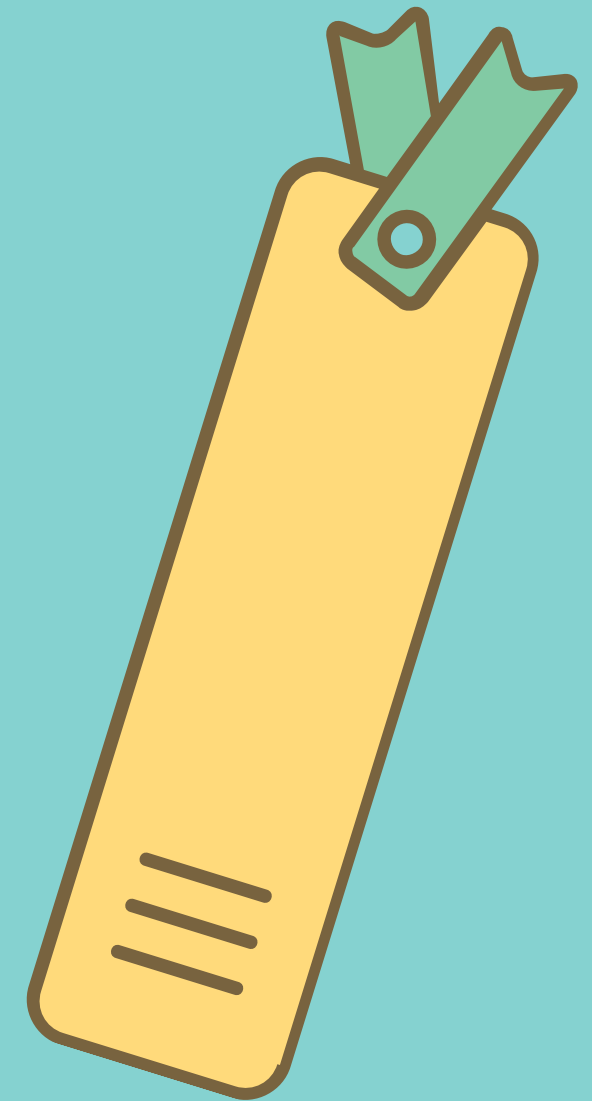
Range

Ridge

Tectonic Plates

Altitude

Climate





# Cops and Robbers



Factor ...	Your own knowledge and recall ...	Information you have "stolen" from your peers ...
Victorian London		
Working conditions		
Living conditions		
Jack the Ripper		
Other key facts ...		

Initial retrieval practice must be individual but can be followed by collaboration.

# Free Recall



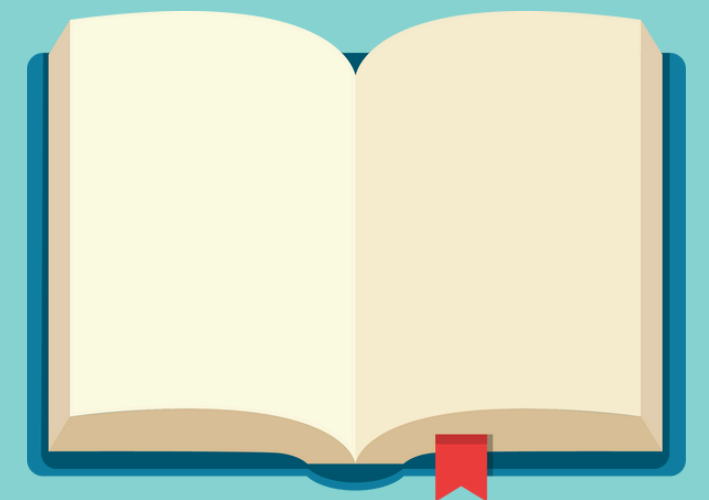


# Cops and Robbers



Your own knowledge  
and recall ...

Information you have  
"stolen" from your  
peers ...



# Retrieval Practice Placemat ...



**What keywords did you use or learn last lesson?**

**Explain a key concept or idea from last week in your own words.**

**State 3 key facts from last lesson.**

**Ask your partner 3 questions based on the content covered this term.**

**No notes allowed!**

**Discuss with your partner what we were studying in the lesson last week.**



**Think and talk like an expert!**



Abstraction	Algorithm	Bug
Data	Decompose	Loop
Key features	Predict	Debug

## Retrieval starter

Last lesson:

Last week:

Last term:

Last year:

### Walk about Bingo!

<p>Q. What is <math>6/13 + 4/13</math></p> <p>A: <math>10/13</math> ✓</p> <p>Name: <i>Callum</i></p>	<p>Q. Work out <math>423000 \div 10</math></p> <p>A: <math>42300</math> ✓</p> <p>Name: <i>BEN</i></p>	<p>Q. What is 60 cm in metres?</p> <p>A: <math>600m</math> ✗</p> <p>Name: <i>Evan</i></p>
<p>Q. <math>? + 18 = 75</math></p> <p>57</p> <p>A: ✓</p> <p>Name: <i>Leah</i></p>	<p>Q. Work out <math>87321 + 8763</math></p> <p>A: <math>96083</math></p> <p>Name: <i>Alycia</i> ✗</p>	<p>Q. Complete using <math>&lt;, &gt;, =</math></p> <p>-32 <math>&gt;</math> -33 ✓</p> <p>A: ✓</p> <p>Name: <i>Jack Hughes</i></p>
<p>Q. Work out <math>600 \times 320</math></p> <p>A: <math>19212</math> ✗</p> <p>Name: <i>Olivia</i></p>	<p>Q. Express <math>26/4</math> as a mixed number</p> <p>A: <math>6 \frac{2}{4}</math> ✓</p> <p>Name: <del>Ben</del> <i>Aron</i></p>	<p>Q. Write five million and fifty three in figures</p> <p>A: <math>5000053</math></p> <p>Name: <i>Mia</i> ✗</p>





**Roll a pair of dice and come up with keywords connected to our topic beginning with...**

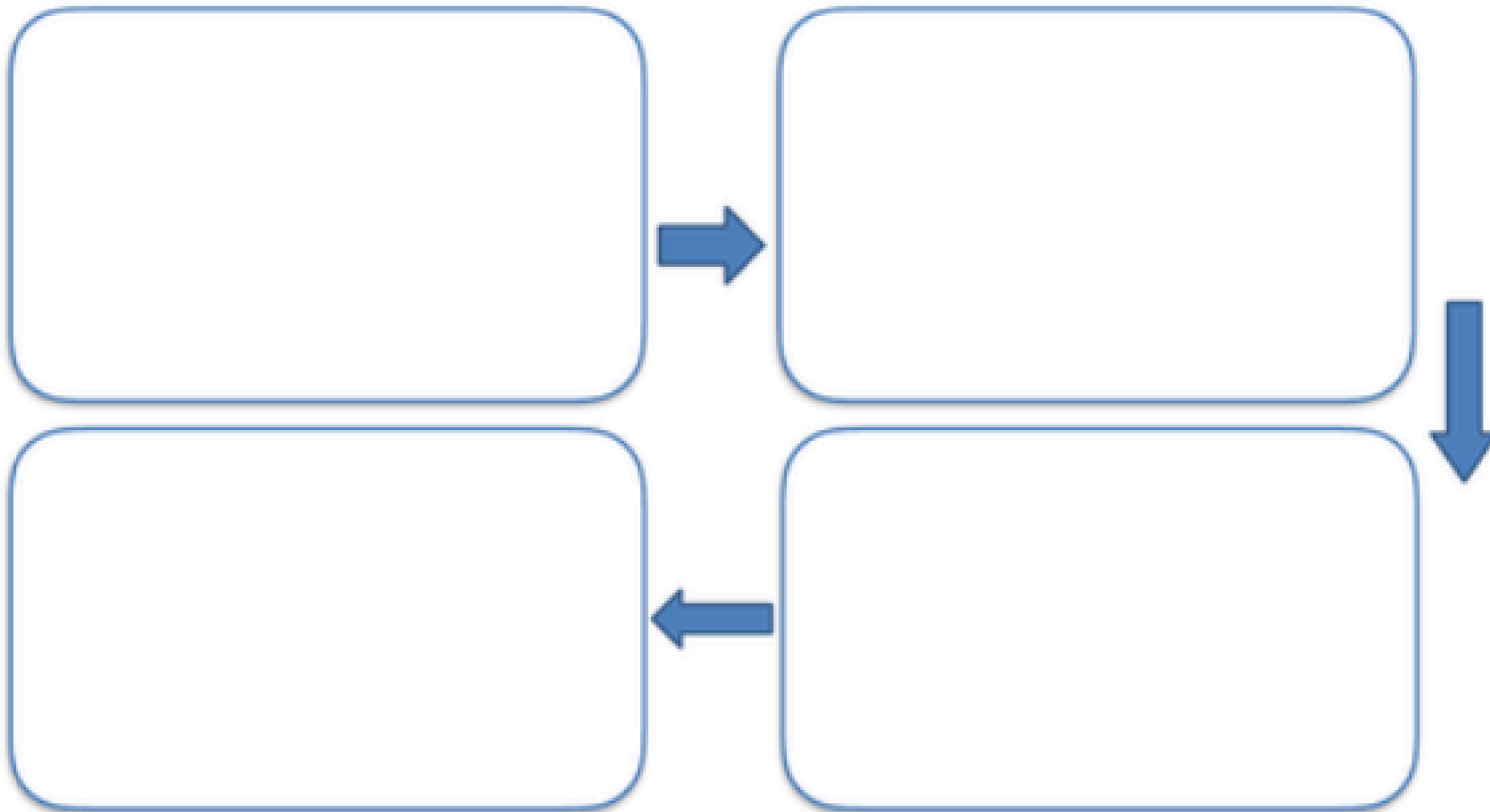
6	A	J	I	D	F	B
5	H	K	B	W	R	I
4	Y	J	O	F	S	U
3	L	C	A	M	T	N
2	G	O	V	P	C	D
1	R	Z	S	E	S	T
	1	2	3	4	5	6



## Retrieval Relay Race!



Instructions: In the first box write as much as you can remember about our topic. In the second box one of your peers must write what they can recall about our topic but they cannot repeat any of the information from your first box! The third box needs to be completed by someone else but again this must include new information and the same for the final box.



Individual  
accountability  
and retrieval.

Shared group  
goal.

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Free recall:

What can you recall  
about Henry VIII?

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Guided recall:

What can you recall about  
Henry VIII and the closure  
of the monasteries?

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# Effective, efficient and successful studying requires ...



Retrieval Practice	Spaced Practice	Effort	Support	Attendance	=	<b>Success</b>
Retrieval Practice	Spaced Practice	Effort	Support	Missing	=	<b>Gaps in knowledge</b>
Retrieval Practice	Spaced Practice	Effort	Missing	Attendance	=	<b>Anxiety</b>
Retrieval Practice	Spaced Practice	Missing	Support	Attendance	=	<b>Under performance</b>
Retrieval Practice	Missing	Effort	Support	Attendance	=	<b>Cramming</b>
Missing	Spaced Practice	Effort	Support	Attendance	=	<b>Ineffective strategies</b>

# Retrieval Practice should be:

- Regular



# Retrieval Practice should be:

- Regular
- Low Stakes





# Retrieval Practice should be:

- Regular
- Low Stakes
- 'Low effort, high impact'





# Retrieval Practice should be:

- Regular
- Low Stakes
- 'Low effort, high impact'
- Desirably Difficult



# Retrieval Practice should be:

- Regular
- Low Stakes
- 'Low effort, high impact'
- Desirably Difficult
- Varied



# Thank You!

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If you would like to stay in touch with me,  
please feel free to email me at  
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