

Retrieval Practice

Soderstorm and Bjork (2015) -
 "the principle of instruction is long-term retention".
[Learning Versus Performance: An Integrative Review](#)

Chn should retain what they are taught – there should be a change in long-term memory that allows chn to recall knowledge taught previously and relate it to new knowledge as well as apply it to future problems.

Transfer of learning is the application of learned concepts or information in new situations.

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Retrieval practice involves getting information "out" of chn's heads by bringing information to mind.

It aims to strengthen chn's ability to recall information from their long-term memories.

The act of "retrieving" information powerfully strengthens learning.

Feb 22-13:52

'Interrupting the Forgetting'

Rather than restricting retrieval practice to what has been learned in the previous lesson, it needs to be expanded to cover what has been learned the previous week and the previous month.

To use retrieval practice well, we need to map out what has been taught and plan where to revisit the learning, allowing for the forgetting to be systematically interrupted.

Feb 5-12:33

Retrieval Practice

Should take place continuously, ideally every lesson

Revisiting prior learning at the start/end of a lesson, during the register, before assembly etc.

Regular low-stakes quizzes

Retrieval practice questions can be multiple choice, true or false, close-ended questions that require a one-word answer, or short explanations.

Write questions relating to previous topics that help chn to recall the information they will be learning in the upcoming lesson.

Show chn an image of something that relates to a previous topic- add questions that rely on chn thinking back to what they have previously been taught (can focus on chronology or processes).

More open-ended questions require chn to recall and use a wider range of their accrued knowledge and understanding.

May 11-16:57

important!

Incorrect answers must not be left uncorrected – always give the correct answer immediately.

This avoids any misconceptions forming in chn's memory.

To effectively foster transfer, retrieval practice should be combined with feedback.

Combining retrieval practice with feedback helps chn strengthen the knowledge that they already have; it also helps them fill in gaps in their knowledge.

Chn will improve their understanding and be better able to transfer their knowledge.

May 11-13:12

Post-retrieval feedback helps chn check whether the information they recalled was correct, and focus on the areas they had difficulty recalling.

Chn will also be better able to integrate what they have retrieved with the rest of the materials to be learned.

This can lead to better transfer of learning.

Feedback which includes an explanation of the correct answer supports the fostering of transfer.

Feedback needs to be detailed, connecting the correct answer with related concepts.

Feb 22-14:14

Important!

Balance retrieval difficulty and success

You do not want the retrieval to be so difficult that chn fail to retrieve anything at all, but you do not want it to be so easy that they do not really have to think back and reproduce the information.

Provide scaffolding to help chn achieve success initially, then slowly make retrieval more difficult.

Jan 27-16:31

Geography Quiz A (answer these in your Morning Workbook)

Which of these is not a type of erosion?
 a) Abrasion
 b) Corrosion
 c) Attrition
 d) Solution

The USA has a maritime border with...
 a) Cuba
 b) Hawaii
 c) Alaska
 d) Brazil


The USA is made up of how many states?
 a) 49
 b) 52
 c) 100
 d) 50

One of the largest states in the USA is...
 a) Virginia
 b) New York
 c) Texas
 d) Missouri

A climate graph shows...
 a) temperature and humidity
 b) temperature and precipitation
 c) precipitation and months
 d) precipitation and population


Jan 27-16:06

1. What was the name of the leader of the French Revolutionaries who was beheaded by guillotine? M_____ R_____.
2. Who fought Napoleon at the Battle of Trafalgar in 1805?
3. What are tectonic plates?
4. What was used to power the engines in the factories and mills?
5. Who who ascended to the British throne in 1837?



Jan 27-13:11

TRUE or FALSE?




1. A cone is not a polyhedron.
2. A triangular prism has more faces than a cube.
3. A cuboid has the same number of edges as a cube.
4. A pentagonal prism has the same number of vertices as a pentagonal based pyramid.

Explain how you know.

Feb 22-12:37

TRUE or FALSE?

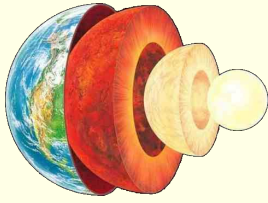


1. An earthquake is caused by the build up of pressure inside the Earth .
2. Napoleon Bonaparte's life ended in exile on the island of Elba.
3. The Poor Law Amendment Act improved conditions for poor people in the early 1800s.
4. Magma and lave are the same substance.
5. The first colonists moved to North America for economic reasons.

Explain how you know.

Feb 22-12:37

What does this image represent?



Write everything you can remember.

Feb 22-17:17

* Play 'Just a minute' -

In pairs, get chn to speak for one minute on a previous learning topic without hesitation, repetition or deviation.

May 11-13:12

* Revisit prior learning at the start/end of a lesson or just before break/lunch/assembly, using a 'can you still.....?' slide

Can you still...

May 11-16:53

Can you still... explain what the Boston Tea Party was?




Jan 27-13:06

Can you still... tell me what a levee is?



Jan 27-13:06

Can you still... multiply two two-digit numbers?

$$\begin{array}{r} 32 \\ \times 16 \\ \hline \end{array}$$


Jan 27-13:06

Can you still... write ISPACED starters?

I _____


S _____

P _____

A _____

C _____

ED _____



Jan 27-13:06

Can you still...
... draw and label an atom?




Jan 27-13:06

* give chn a section of the KO with information taken off - can they fill it in?

Add as much information about each monarch as you can to this part of the knowledge organiser. Aim to include dates.

King George III	
King George IV	
King William IV	
Queen Victoria	



Jan 30-08:44

Can you remember the year the event occurred?

	Matthew Boulton and James Watt designed and built the first steam engine.
	The Poor Law was passed to help people who could not work. They were given money to survive.
	The first passenger railway opened between Stockton and Darlington. It took 2 hours to travel 12 miles.
	George Stephenson designed and built his locomotive "The Rocket". It reached speeds of 24mph.
	Liverpool to Manchester railway line opened to passengers.
	Factory Act passed to improve conditions for children working in factories.
	Poor Law Amendment Act reduced help for the poor and set up workhouses.

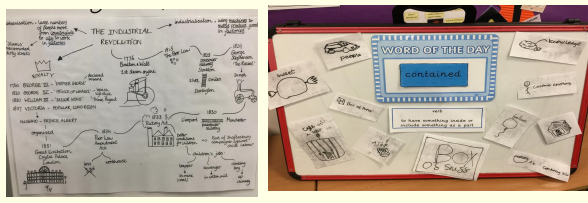
Jan 27-16:13

* Use dual coding

Make your own 'knowledge map' - this can help chn understand what it is meant to do.

Get chn to create their own knowledge map, with images/representations that help them to remember.

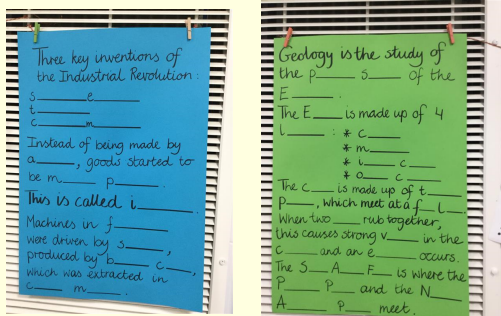
Show a section of a knowledge map and ask chn to fill in the details of the information that goes with it.



May 13-20:48

* Put up a cloze procedure (on a slide or on paper) - can chn fill it in?

Write missing words on white boards



May 11-17:29

Complete the passage below in your morning workbook:

Geology is the study of the p_____ s_____ of the E_____.

The E_____ is made up of 4 l_____:

- * c_____
- * m_____
- * i_____ c_____
- * o_____ c_____

The c_____ is made up of t_____ p_____, which meet at a f_____ l_____.

When two p_____ rub together, this causes strong v_____ in the c_____ and an e_____ occurs.

The S_____ A_____ F_____ is in C_____.

This is where the P_____ P_____ and the N_____ A_____ P_____ meet.

Jan 27-16:28

* Put up a matching task (on a slide or on paper) - can chn match names with definitions or events with dates?

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May 11-13:12

* Give chn an 'exit pass'
Quick questions relating to lesson just completed or prior lessons that each chd needs to answer before they can leave the class for break/lunch/home time

Oral answers

Answers need to be short

Chn should be able to give an answer they have just heard someone else say, but try for variety by asking different questions (opportunity to differentiate)

Can be done for times tables/RVI/SPaG/topic etc

"give an example of a subject pronoun"

"give me another word for contained"

"name a Georgian Monarch"

Jan 27-13:27

* Use target clouds to revisit and extend knowledge learned in previous lesson.

Jan 27-13:47

1 Name the three key inventions of the Industrial Revolution.
The three key inventions of the Industrial Revolution were:.....

Extension: Why were these inventions so important?

Day 3

To understand the significance of cotton spinning moving from being a hand craft, to being mechanised.

Jan 27-16:01

1 Why was George IV called Prince Regent at first?
George IV was called Prince Regent at first, because

2 Explain what made Queen Victoria a conscientious monarch.
Queen Victoria was considered a conscientious monarch, because

Lesson 2

To begin to understand why the Industrial Revolution was important to Britain.

Jan 27-16:02

1 Why are so many large cities located on the coast?
Many large cities are located on the coast, because

2 What physical reasons are there for high population density?
Physical reasons for high population density are:

To compare the climates in 3 different states of the USA

Success Criteria:

- To understand how climate varies across the USA
- To read a climograph accurately
- To know the meaning of precipitation

Jan 27-16:08

RETRIEVAL PRACTICE

When we teach something once, then want to do more to help students learn it better, instead of just reviewing the content, we're better off giving something like a quiz. In other words, if we do more asking students to pull concepts out of their brains, rather than continually trying to put concepts in, they will actually learn better.

Retrieval practice is NOT THE SAME AS ASSESSMENT. Although it can look like testing, it is a learning strategy, not a tool for measuring or grading students.

USING IT WELL

WHAT IT LOOKS LIKE

- Think-pair-share
- Low-stakes quizzes
- Flashcards
- Brain dumps

Include Feedback
Tell students if they got the answer right or wrong.

Space Your Practice
Rather than doing retrieval all at once, spread practices out over time.

Match Practice to Assessment
If you will assess for basic recall of facts, retrieve with those. If you will require higher-order thinking on tests, include higher-order questions during retrieval.

Feb 5-16:43

Optimising Learning Using Retrieval Practice
LEARNING SCIENTISTS POSTS, FOR RESEARCHERS, FOR TEACHERS
By Megan Sumeracki & Yana Weinstein

Learning Versus Performance: An Integrative Review
By Soderstrom and Bjork (2015)

Retrieval Practice and Transfer of Learning
Fostering Students' application of knowledge
By Steven Pan and Pojja Agarwal (2018)

Make It Stick: The Science of Successful Learning
By Peter C. Brown, Henry L. Roediger III, and Mark A. McDaniel (2014)

<https://www.cultofpedagogy.com/retrieval-practice/>

<http://pdf.retrievalpractice.org/TransferGuide.pdf>

Jan 27-16:37

Attachments

SPaG activities notebook.notebook

SPaG core knowledge notebook.notebook