



TEACHING AND LEARNING NEWS

A half termly update on teaching and learning, research and pedagogy

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Celebrating Our “Innovative Approach to Staff Professional Development”

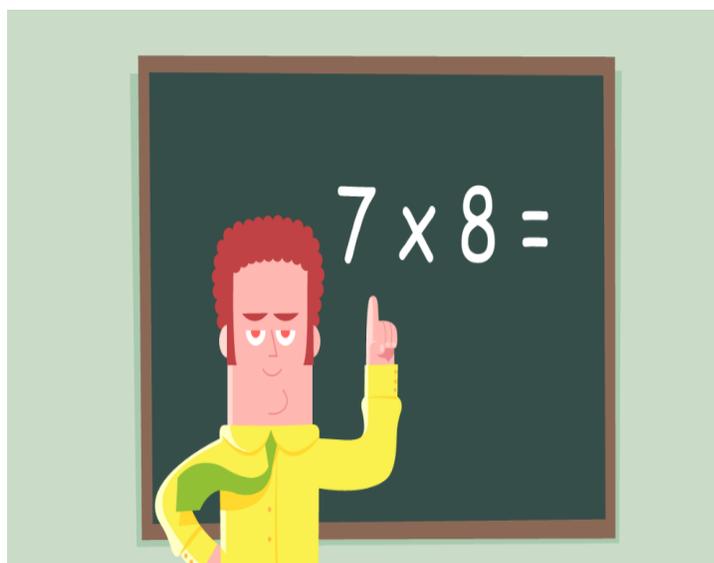
Welcome to another edition of Teaching and Learning News. It was great to see that our recent Ofsted report commented on our innovative approach to CPD through our Teacher Learning Community. In this issue, there's more information about some of the great professional learning going on in our School Community at the moment.

Rote Learning Times Tables - What Does The Research Say?

In Summer Term, with SATs taking place, many of us find ourselves questioning whether there is a place for rote learning in the classroom. This is particularly interesting in subjects such as maths, where basic number facts provide the building blocks for calculation, but what does research tell us about the importance and relevance of rote learning?

Neuroscientists have discovered that the act of memorisation involves transferring information from the short-term memory (in the hippocampus) to the long term memory (in the cortex), via the working memory. Various researchers have found that the transfer of information into the long-term memory,

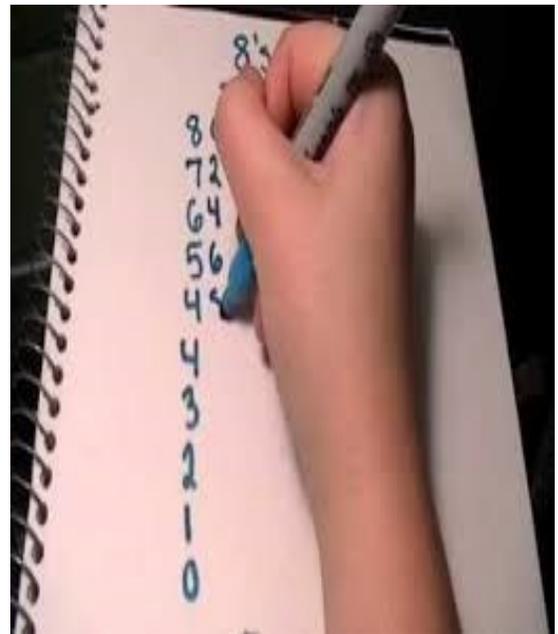
ready for retrieval, can reduce anxiety, increase pupil confidence and free up other cognitive resources in order to carry out more complex tasks. We can see this in maths lessons and during testing, where children who are not yet able to recall their multiplication facts, are using their working memory to try and calculate them, leaving little additional cognitive space to solve



the problem in hand.

Petch (2016) explains how memorisation and recall use two different neural pathways. Learning by rote and learning with understanding use different connections in the brain. Even if times tables are learnt by rote without understanding, this can be done alongside other strategies to develop pupils' wider understanding of number.

There has been a great deal of research into the amount of information that can be memorised in one session. Back in 1956, Miller described 'The Magic Number Seven' as the maximum number of items possible to memorise in any one sitting. This is due to the fact that the working memory (used for cognitive tasks) has a limited capacity. This has implications when practising times tables or similar in class.



Research has also demonstrated that repeatedly reciting number facts and frequently testing them does improve recall (Roediger and Karpicke, 2006). Also, interestingly, Roediger and Butler (2011) discovered that the effort of trying to remember number facts strengthens the neural pathways involved in memorisation. It is therefore helpful to give children opportunities to try and recall a fact before giving them the answer straight away.

By supporting children in your class to commit their multiplication facts to long-term memory, you are freeing up the space in their working memory to solve more complex problems.

Top Tips for Teaching Times Tables

- Use a counting stick to help children memorise patterns and make mental representations
- For younger or less able children, use concrete resources to count sets of objects
- Use times tables raps and songs to engage pupils
- Use computer games, e.g. 'hit the button'.
- Give chn. the experience of trying to remember their tables by heart to strengthen neural pathways.
- Regularly test children's times table knowledge



What's Coming Up? C.P.D.

- **Monday 22nd May - 3:45pm** —Inset (Science/Geography)
- **Tuesday 23rd May –9:10am– 10:10—** Additional Growth Mindsets Parent Workshop (in the MUR)
- **Tuesday 6th June - 4:00—**Futurezone Cluster Meeting—Writing Focus (Years 1-6 teachers)
- **Monday 3rd July—3:45pm—**TLC staff meeting



Thank you to Brenna for sharing her recent CPD experience. If you have attended a course or some CPD you found useful, speak to Jess about including your feedback in the next edition of Teaching and Learning News.

NGPS at the LGfL Conference

On 24th April, Donna, Brenna and Alex attended the London Grid for Learning annual conference as representatives from NGPS. Brenna shared the following feedback from her day:

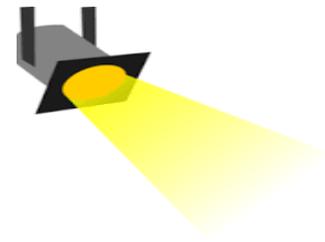
"The training was great. The two seminars I found particularly useful were 'Supporting all learners—resources for children with SEND' (this showcased new and exciting SEND content) and 'Breaking down barriers to writing, especially for children with SEND, (This was delivered by SEND and ICT advisers who demonstrated how images and music can be used to support non-fiction writing)."

Brenna also noted the following programmes and inclusive resources, which she found useful from the day:

- Listening books
- Widgit
- Busy Things
- Audio Network
- Look, Think, Do
- Word Q, Speak Q.

Brenna explained, "All these resources are available through the LGfL site by just logging on using your LGfL login. These are resources I use in year one with all children. They are definitely worth a try!"

"One of the Key speakers that was Lorin Lafave who spoke about 'The Breck Foundation'. This is a charity which aims to raise awareness of playing safe whilst using the internet. Anyone who is teaching children about internet safety, it's worth using



Plants CPD



On 30th March, Joe (Year 2) and Frances (Year 3) each attended a free CPD session on plants, run by the Primary Science Teaching Trust (PSTT).

The half-day, key stage specific sessions were held in conjunction with Gillespie Primary School in Islington and designed to support teachers around the topic of Plants in science.

Frances commented " I found it really interesting and engaging... the speaker really allowed me to feel a

lot more confident and encouraged with regards to how to teach this topic. She showed us many different practical lessons that we can use ... which we can link directly to the scientific objectives we need to cover in the term. Also to develop my own knowledge, which I found really helpful, was that we were able to go on a walk to Gillespie park and we were taught how to identify different plants and flowers and different ways in which we can use this as a chance to get the children outdoors exploring nature and appreciating the plants that are right on their doorstep! I left the training feeling quite excited about teaching plants as my subject knowledge improved which I also in turn passed on to Chloe which she found to be very useful also."

As we are now part of a new PSTT cluster of schools in our area, Chloe, our Science Subject leader will be looking out for more CPD opportunities in the future. If you are interested in future science training opportunities, please speak to Chloe.



If you'd like some ideas for how to teach topics on plants to your class, have a chat to Joe, Frances or Chloe to find out more.

Growth Mindsets Update

What impact is our whole school approach to growth mindsets having on the children we teach? This is what some children had to say about growth mindsets and what they've been learning in class:

"Probably when you say you can't do something, that's a fixed mindset. When you say you're positive you can do something or I know I can do it, I'm just not trying hard enough, that's a growth mindset. When I'm doing maths and I can't solve something, I probably say, 'One more try'."

Kassie, Rowan Tree

"If you get something wrong, you have to try, try again until you get it right....the power of YET!"

Yazeed, Cedar Tree

"I done my book (sic.), but I thought that I couldn't read that much, but I had a growth mindset and I actually finished the book."

Ekin, Pine Tree

"I've learnt that when you have a growth mindset you don't give up and you challenge yourself."

Racha, Cedar Tree

"It's where you not give up on your writing (sic.)"

Neveah, Pine Tree

"Mistakes are good for learning even more...you can't always get stuff right."

Mohammed Sh. , Cedar Tree

"it's when you use perseverance and resilience and you never give up. Normally people say, I can't do it...YET!"

Jayden, Silverbirch