



DCBEAGLE Challenges

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BEYOND THE TEXTBOOK = September 2018

The academic year for me has started well with a quick three day visit to Nairobi at the beginning of the week and ending it on Friday with one of my biggest Year 6 maths challenge at Wrekin College in Wellington, Shropshire with 200 young mathematicians from 50 different schools. In Kenya I was challenging and puzzling and hopefully enthusing teachers about the benefits of puzzling to engage the pupils more when it comes to maths teaching and learning.

Making sense of math

All teachers, and in many cases, parents should watch the first 10 minutes of a TED talk given by Greg Tang. He talks about the dominance of procedures being taught in lessons where learning is through rote on most occasions instead of looking at visualisation, reasoning and number sense.

If you could not solve equations involving fractions you will be able to do it after watching the video. Even your Year 6s will be able to solve them. I am afraid the sound quality is poor but bearable. Click [here](#) to access the video.

Puzzle of the month

Howzat! cricket sense

In a cricket match Anderson made 42 runs. Carpenter scored half as many as Baker, and Danby one-third as many as Baker, but Anderson's score exceeded Baker's by the same number of runs that Carpenter's exceeded Danby's. How many runs did each play score?
Let's Number Boggle

Many will be familiar with the word game where one has to try and made words from an array of letters by moving horizontal, vertical and / or horizontal. This can be applied to numbers where a target has to be reached by the same movements and adding and / or subtraction. Click [here](#) for the booklet.

Interesting perspectives with regards to maths teaching

"Don't teach thousands!" – Michael Tidd = the confusion of place value among young children. Click [here](#)

The Best Question I Ever Asked – Alan Parr

This is a typical example of giving inappropriate worksheets to pupils who are wanting to be stretched and wanting challenges:

"I was inspecting a Y3 class and came across a boy who'd been given a worksheet of fifty questions. Fifty! To my mind, if the child has mastered the skill then you don't need anywhere like fifty examples to prove it. And if they haven't, then it's pretty disgraceful to give them fifty opportunities to ram their failure home more and more heavily.

When I came across Cunningham he'd reached number 34. Question 34 asked him to perform $5 - 2$. (What on earth, you may wonder, were questions 1 to 33 like?) I couldn't bring myself to ask him for the answer – but I did ask if he thought he could manage the challenge. Not surprisingly he felt it was within his capabilities, so I asked

“Can you give me another sum which would have the same answer?”

And – instantly – he wrote $1000 - 997$

It's hard to imagine ever meeting such a horrible mismatch between what a child was capable of and what he was actually being asked to do. I didn't much enjoy doing inspections, but this was certainly a light-bulb moment and a tribute to the power of asking open rather than closed questions.”

So what is the solution? In my mind give the pupils puzzles to solve – not only will their numerical skills improve but they probably gain more interest in the subject.

Book of the month

Yes, but why? Teaching for understanding in mathematics by Ed Southall

“This is the book that we've all been waiting for! I thoroughly enjoyed reading it and was astonished by how much new stuff I learnt. This book makes mathematical concepts crystal clear. It provides fascinating insights and helpful teaching tips for a comprehensive range of topics. This book has given me a fresh burst of enthusiasm for teaching our wonderful subject! It's a must buy for all new and experienced maths teachers”.
(Jo Morgan 2016-11-17)

“For this is not just a book packed full of fascinating facts. Scattered through the pages are practical teaching tips that can be used straight away in the classroom.. Having read the book, I don't just have more answers to students' questions, I also have new ways of introducing and extending topics, and a much more in depth knowledge of a subject I thought I knew pretty well”. (Craig Barton 2016-11-17 – alias Mr Barton)

Websites of the month

Crickweb

<http://www.crickweb.co.uk>

There is an array of activities for KS1 and 2 as well as several games. This website covers the whole range of the primary programme and not just numeracy.

The mathematics shed

<http://www.mathematicshed.com/>

This covers a wide range of material covering the KS1 – KS3 curriculum and is very much hands-on activities.

Howzat! cricket sense solution

Anderson 42, Baker 36, Carpenter 18, Danby 12