Danny Brown: Session 3

Danny Brown delivered his final session of the year for the ATM London branch this Saturday. As always, he offered some intriguing ideas and approaches to teaching mathematics. He launched the session with a cross curricula link to the history of mathematics taking us back to the Egyptians and Babylonians, giving us the opportunity to discuss the differences of their approach to a number system. We got to explore the idea of working in different bases which was an exciting way to help students cement their understanding of our own number system in base 10. From here Danny gave our brains a work out as we counted in binary – a fun way to count up to 1023 on your hands whilst teaching students about powers of 2 and getting them to practise essential arithmetic skills.

Taking this idea further Danny drew a maze like the one below and explained that by using the numbers 1 and 0 only, we were to come up with a code that would direct the alien to the end point. An idea which is easy to implement into the classroom and offers students the chance to develop problem solving skills through discussion – well worth trying out to see what your students come up with. This could also move onto an interesting discussion about how NASA improves their codes to be error correcting codes to ensure messages sent from space are not lost.

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| http://www.aperfectworld.org/clipart/cartoons/alien.gif |  |  |  |  |  |
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Danny then showed us how he has taken key parts of the curriculum and delivered them in engaging ways which promote understanding. One area we explored was multiplication which we looked at from a range of different methods, including the use of some homemade Napier’s bones.

The final part of the morning gave us the opportunity to look at a couple of investigations involving chessboards and faults lines. Posing questions such as: If you remove two opposite corners of a chessboard can you fill it with dominoes? How about trominoes? Can you make a 4 x 4 square with dominoes that doesn’t have any faults lines? A great way to get students to work systematically, explore mathematics and pose their own questions whilst developing important skills and covering a range of content from the curriculum.

For more details of any of these resources and more please visit gfsmaths.com/the-book where you will find Danny’s current version of the book he is writing. If you’ve tried out anything or have a question for Danny please feedback on londonmaths.org.uk or follow Danny @dannytybrown on twitter where he is constantly updating what he’s tried in the classroom and is a space where he is developing his book.

Kate Gladstone-Smith