

Education

NEIL
ARMSTRONG



Born to sum

'I'm really hopeful that teachers will enjoy using it; that children will enjoy it, and that it will have a big impact in making kids cleverer, giving them a better chance for the future,' says teacher Neil Armstrong about his innovative new maths programme, SAMSON, and its Bruce Springsteen-inspired circus characters

WORDS ANNE ARMSTRONG PHOTOGRAPHY DANNY FOWLER SAMSON ARTWORK HOGGETT CREATIVE

Mention maths to most primary school children and there'll be much groaning and cries of "I can't do maths". But Annan teacher Neil Armstrong has plans to change all that, with a little help from Bruce Springsteen and a merry band of circus characters.

Neil has put his 25 years of teaching experience into creating an innovative programme for schools to help children improve their mental maths skills in a fun and interesting way.

His SAMSON programme, developed in response to an apparent national fall in numeracy standards, seeks to help build all children's confidence and ability in maths.

"It's very rare and very hard to get kids to both love maths and be brilliant at it, but success breeds success: kids want to learn and want to improve. SAMSON builds up their confidence, which makes them more motivated. Long-term motivation comes from the feeling of getting better at something and wanting to do more of it," he says.

Neil, who is depute head teacher at Newington Primary School in Annan, has developed 'SAMSON - the Strong Approach to Maths' over the last five years, building on his experience to create a clear and simple programme to help primary school children with the key numeracy skills of addition, subtraction, multiplication and division.

He was motivated by a report at a head teachers' conference which highlighted a decline in standards and attainment in Scotland, and he wanted



Neil Armstrong's SAMSON circus figures, which are helping to bring maths to life

to build on methods already being put in place at Newington to address that.

New electronic smartboards installed in schools across Dumfries & Galloway made it easier for Neil to start developing his own resources and mental maths programme, first for Primary 7 and eventually every year group.

He says: "This was developed on the front line with children and working alongside teachers. Staff were a massive help, giving their own ideas, and I had great support from head teacher Irvine Torhett.

"The kids enjoyed it and the methods were working, with good results in computerised tests which monitor children's progress. They showed our pupils scoring much higher in maths than the national average. The evidence was there that it really worked."

Believing this was a good programme with a high impact, Neil, who lives in Lockerbie, decided to pull his materials together in a structured way that could be delivered in any school, by any teacher. ▶

Neil Armstrong



Looking for a theme to build the programme around, the Bruce Springsteen fan had a lightbulb moment when he thought of the American rock star's song Wild Billy's Circus, which triggered ideas for a circus theme.

Investing his own savings into the project, Neil started working with Simon Woolley and his team at design agency Hoggett Creative in Annan to create the characters and design paper and digital teaching resources for SAMSON (which stands for Speed, Accuracy, Mastery, Self-testing, Overlearning and Numbers).

Now a range of circus figures help bring maths to life for pupils: The Ringmaster; Stephanie, the Takeaway Tightrope Walker; the Hired Hands, Ten and Twenty; boy genius Tiny Tim; and strong guy Samson. Each figure has a different role in helping children with addition, subtraction, multiplication and division.

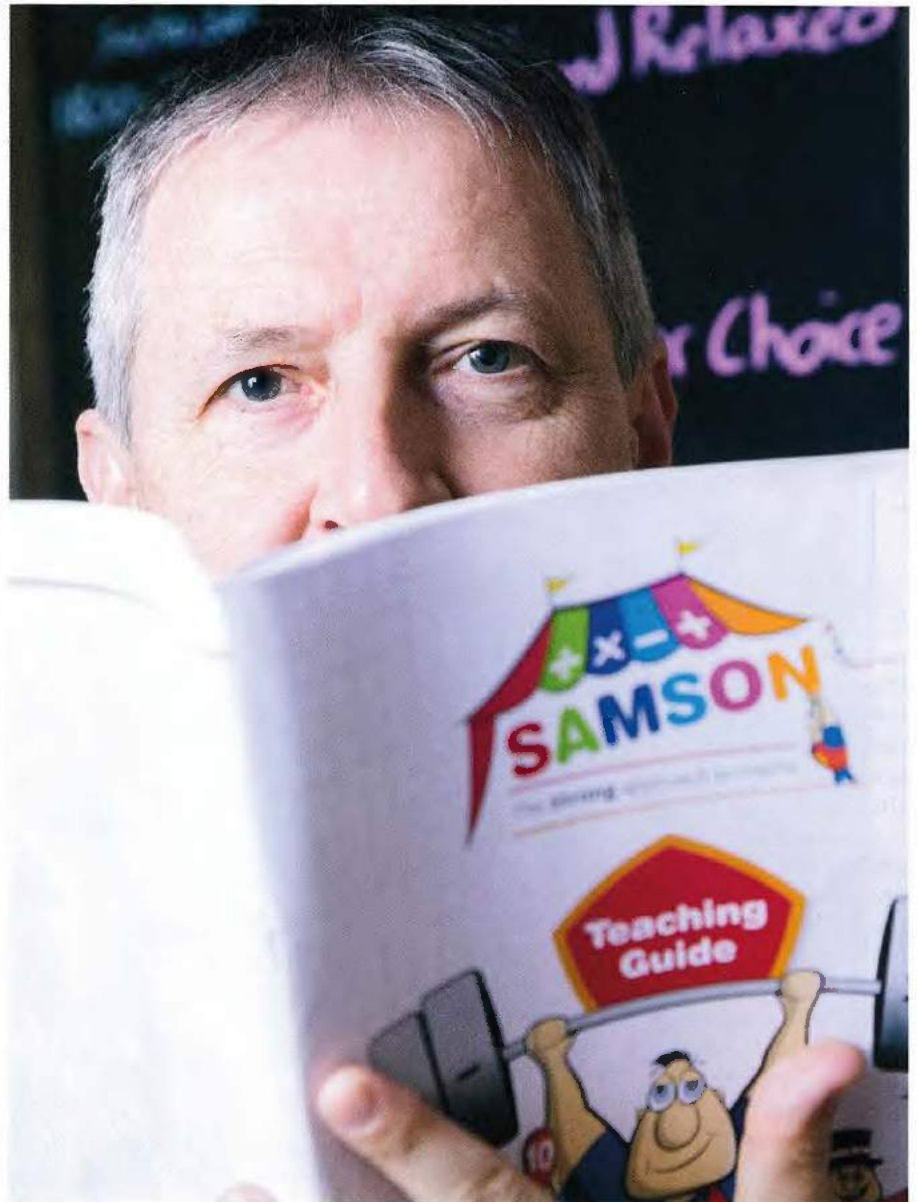
"It's been amazing working with Simon, graphic designer David Smart, and the Hoggett Creative team. The characters make it fun for kids and it's been brilliant seeing them in the dinner hall trying to be tightrope walkers or acting out other roles in the playground," Neil says.

"This is a fast-paced and interesting programme. It's not boring or gimmicky, and really just involves the teacher teaching. But the kids feel it's fun and we find that all children in a class improve; it takes away anxiety about maths and they become more confident.

"Newington is a large primary school which has a significant area of deprivation within its catchment and a wide range of pupils, but attainment figures for all children have risen. Lower achievers are punching above their weight while higher achievers soar.

"This approach gives all children the opportunity to succeed, and is trying to raise attainment while closing the gap between the higher and lower achievers within any class."

Neil formally launched SAMSON during Maths Awareness Month in April, and is hoping that other schools in Dumfries & Galloway and further afield will want to introduce it. The Annan cluster of 11 primary schools have already taken it on board, and he is due to make presentations to other schools



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in the coming weeks. The costs work out from around £13 per pupil for the duration of their time at school.

Starting in Primary 1, the programme builds up mental maths skills gradually from year to year until Primary 7, with advice and planning

guides for teachers at each stage, and resources including numerous worksheets for children on the four processes of addition, subtraction, multiplication and division, plus digital flipcharts for teaching using classroom smartboards.

Neil says: "There are hundreds of maths resources out there, but this approach is all evidence-based and it works.

"I'm really hopeful that teachers will enjoy using it; that children will enjoy it, and that it will have a big impact in making kids cleverer, giving them a better chance for the future."

See 'Strong Maths' on Facebook.