

Suzie Skipper finds out about the different methods of learning maths from Chinese to Japanese and Russian. She asks the experts how parents can help inspire their children to understand and even love maths.

Illustration by Charlotte Cleveland

You either get it or you don't was always my philosophy on maths. I didn't. It was only when I took a job in financial journalism that I appreciated the practical importance of maths, which at school had simply not made sense.

MAKING IT FUN

Jump to 2017 and with four children in school I realised that maths can (and should) be, dare I say it, 'fun'. Anastasia and Fred Stone who launched The London School of Mathematics and Programming (LSMP) in 2013 certainly believe in making maths fun and tangible. Anastasia used to compete in Maths and Programming Olympiads in Russia and, after a career in finance, began by helping friends tutoring their kids. "I quickly realised that some of the children I met in the UK were memorising maths rather than understanding the concepts... It's just so hard to enjoy something you don't understand," says Anastasia. LSMP runs various classes including one in robotics where children learn to build a model and programme it. "We had kids making light sabres which changed the light intensity and colour according to the angle. So immediately the children realise they need to understand trigonometry to do this," explains Fred.

SOLID FOUNDATIONS

Building strong foundations in the basics is key, says Sally Hobbs, ex-head of Orchard House School and senior schools educational consultant for Mavor Associates. "One size will never fit all. You have to find the right method and learning rate." Early maths concepts learnt in Reception and Year 1 must be clearly understood.

Professor Hugo de Burgh, co-founder and chairman of Kensington Wade, Europe's first dual-language English-Chinese school opening in September, says that the school will use the Shanghai approach to teach maths. "There will always be some pupils who are slower or faster than others but with the Shanghai method the teacher will make sure that

the 'whole class' has fully understood the mathematical concept before moving on," says Hugo.

With tests showing that children in Shanghai, Singapore and Hong Kong are streets ahead of UK children, the UK government has also embraced the South Asia 'mastery' approach to teaching maths. It has pledged £41 million to support more than 8,000 primary schools in England adopt the approach.

So what is Shanghai maths? The whole class is taught together rather than split into ability groups like in the UK, which can reinforce a cultural mind-set that people are either good at maths or they are not. If pupils have not understood the key ideas in a lesson then quick intervention in the form of additional teaching on the same day will ensure they're ready for the next day's lesson. Lessons are highly interactive with lots of emphasis on using the correct mathematical terminology and getting the basics right before moving on. The emphasis is on the mastery of key concepts rather than rote learning of skills or procedures, plus an underlying belief that every child has the potential to succeed at mathematics.

A PRACTICAL APPROACH

Without doubt the best way to 'understand' maths concepts is by using a practical approach, says Sally. Parents can help children with homework by using items such as conkers, cutlery, buttons, anything you can count. Children sometimes think using objects or counting on fingers is 'babyish' but understanding concepts such as division by dividing objects into groups will help them enormously.

Tash Rosin, founder of Teatime Tutors, specialises in 7+ and 11+ entrance exams and says her top tip for cracking maths questions is to illustrate the question to help children visualise it. "Parents can help by breaking up word problems, perhaps by drawing a timeline or splitting it into bullet points," says Tash. Bring maths to life so children can make sense of why it is important. Parents can help by doing practical

things that involve maths with their kids. To bake a cake you need to understand weights and measures, shopping involves adding and subtracting. Simply reading a bus or train timetable can really help children understand the concept of time and the 12 and 24 hour clock.

Parents can easily confuse their children if they don't understand the method the school uses. My 8-year old daughter does multiplication a very different way to me but the good news is that she has learnt that we both get the correct answer – there is more than just one way! If your child's school doesn't do a formal explanation on their maths methods then do ask them to show you.

YOUR ATTITUDE COUNTS

If you have a negative attitude to maths, your child will pick up on it. The golden rule is if you see maths as cool, fun and worthwhile your kids will too. Japanese-founded Kumon programmes have 4.3 million students worldwide and 70,000 in the UK and parents are very involved says UK brand manager Guy Flower. "Children drop in to a class once or twice a week but essentially they do the maths and/or English worksheets at home, which parents mark on a daily basis... parental input is a very important ingredient in a child's education."

MAKING MISTAKES

Getting 100% is not always a good thing. "If I see a page of sums which are all correct I would be pleased, but there is an argument that the task was too easy," says Sally. Kumon's philosophy, developed by parent and gifted teacher Toru Kumon in 1954, is that children should become less reliant on being 'taught' and more able to learn for themselves. At Kumon the instructor initially identifies the child's ability, checking that they haven't missed any key building blocks, and will set students on a linear programme which, in the case of the maths programme, spans basic maths from ages 2–19. "Kumon worksheets offer examples which guide the child to work through the following sums for themselves... we aim to progress children to work beyond their school grade and become self-learners," says Guy.

MATHS IS COOL :-)

We need to move maths out of 'geeky' and into the 'cool' category and show children that it comes into literally everything we do in life. "The perception is in the early years that if a child is doing well in reading that's the barometer of success but maths should be equally as important," says Sally.

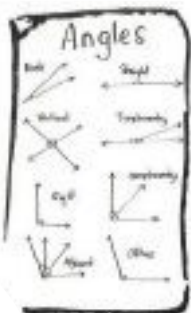
LSMP's weekend and holiday courses often use teachers from academia or who are working in programming or finance. "As well as teaching them what you can do with maths, these professionals talk about their experience in the workplace and this really brings maths to life and inspires kids," says Anastasia.

RESOURCES

- 📄 kensingtonwade.com
- 📄 kumon.co.uk
- 📄 londonstp.co.uk The next STEM camp runs 10–16 July (ages 9–19).
- 📄 mavorassociates.com
- 📄 teatimetutors.co.uk
- 📄 ukmt.org.uk. The UK Mathematics Trust, a registered charity, aims to advance the education of children and young people in mathematics. Organises national mathematics competitions for 1–18 year olds.

FUN WEBSITES FOR KIDS

- 📄 crickweb.co.uk/ks2numeracy.html
- 📄 mathszone.co.uk
- 📄 nrich.maths.org
- 📄 primaryhomeworkhelp.co.uk/maths/
- 📄 topmarks.co.uk/maths-games/hit-the-button



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