

Do you remember how excited your children were about mathematics when they were young? How they were excited by patterns in nature? How they rearranged a set of objects and found, with delight, that they had the same number? Before children start school they often talk about mathematics with curiosity and wonder, but soon after they start school many children decide that mathematics is confusing and scary and they are not a "math person". This is because mathematics in many schools is all about procedures, memorization and deciding which children can and which cannot. Mathematics has become a performance subject and students of all ages are more likely to tell you that mathematics is all about answering questions correctly than tell you about the beauty of the subject or the way it piques their interest. Given the performance and test-driven culture of our schools, with over-packed curriculum and stressed out students, what can parents do to transform mathematics for their children? Here are some steps to take:

1

Encourage children to play mathematics puzzles and games. Puzzles and games - anything with a dice really - will help children enjoy mathematics, and develop number sense, which is critically important.

2

Always be encouraging and don't tell children that they are wrong when they are working on mathematics problems. Instead find the logic in their thinking - there is always some logic to what they say. For example, if your child multiplies 3 by 4 and gets 7, say - 'Oh I see what you are thinking, you are using what you know about addition to add 3 and 4, when we multiply we have 4 groups of 3.'

3

Don't associate mathematics with speed. It is not important to work quickly, and we now know that forcing children to work quickly on mathematics is the best way to start mathematics anxiety for children. Use visual activities such as <https://bhi61nm2cr3mkdggk1dtaov18-wpengine.netdna-ssl.com/wp-content/uploads/2015/03/FluencyWithoutFear-2015.pdf>

4

Don't share with your children the idea that you were bad at mathematics at school or you dislike it.

5

Encourage number sense. What separates high and low achievers is number sense - having an idea of the size of numbers and being able to separate and combine numbers flexibly. For example, when working out $29 + 56$, if you take one from the 56 and make it $30 + 55$, it is much easier to work out. The flexibility to work with numbers in this way is what is called number sense and it is very important.

6

Perhaps most important of all - encourage a "growth mindset" let children know that they have unlimited mathematics potential and that being good at mathematics is all about working hard. When children have a growth mindset, they do well with challenges and do better in school overall. When children have a fixed mindset and they encounter difficult work, they often conclude that they are not "a math person". One way in which parents encourage a fixed mindset is by telling their children they are "smart" when they do something well. That seems like a nice thing to do, but it sets children up for difficulties later, as when children fail at something they will inevitably conclude that they aren't smart after all. Instead use growth praise such as "it is great that you have learned that", "I really like your thinking about that". When they tell you something is hard for them, or they have made a mistake, tell them: "That's wonderful, your brain is growing!"

