

# Everything you need to know about...

## Growth mindset in maths



Have you ever put something off because you have found it hard in the past? Have you ever heard your child say that they “can’t do something”, when you know that if they tried a little harder they could? These feelings are often connected to perceptions about ability – which links to mindset. We’ve pulled together this fact sheet to help you understand the basics.

### What is growth mindset?

Carol Dweck is a Psychologist from America, and her groundbreaking work has had a huge impact on educational practice (Dweck, 2007). Her research shows that everyone has a mindset – an idea about their own potential which determines their beliefs and behaviours. Those with a fixed mindset believe that their basic qualities (for example intelligence, talent and their ability to learn) are pre-determined. By contrast, those with a growth mindset believe that hard work, effort and commitment contribute towards success – it is within everyone’s power to do well and to succeed. Studies have repeatedly shown that learners with a growth mindset achieve more in school and later on in life.

### Can everyone do well in maths?

It is not unusual for people to say “I can’t do maths”. Frequently people have had bad experiences of being taught mathematics and these experiences often travel with them into adulthood. When faced with difficulties – challenges, setbacks and criticisms – everyone has a choice. Of course, some children will find maths more challenging than other subjects - it’s only natural for children to have preferences. But finding something difficult doesn’t equate to failure.

Everyone can achieve if they put their mind to it, and learning at a slower pace doesn’t mean you’re any less capable.

### Did you know?

The Government are backing a new teaching approach in England – Teaching for Mastery. Maths teaching for mastery rejects the idea that a large proportion of people ‘just can’t do maths’. Take a look at our supporting fact sheet, *Everything you need to know about...maths mastery* to find out more.

## How do mindsets develop?

Learning something new is often exciting, but as children become more aware they begin to compare themselves to others. Children want to feel like they are the best, and because of this they forget the importance of the learning process itself. If this behaviour is encouraged, children can start to avoid difficult tasks, feeling that there is no point in trying because they are bound to fail.

## How can I help at home?

Don't worry if you think that a child in your care has a fixed mindset. Because mindsets are linked to beliefs, they can change over time. Below are a few tips on how you can help promote a growth mindset at home!



- **Talk positively about maths!** If children hear the people around them saying they can't do maths, or that they don't like maths, this is likely to have a negative impact on children's learning.
- **Set high expectations!** Doing this will show children that you believe they really can succeed.
- **Celebrate mistakes!** Mistakes should be encouraged, explored and celebrated. Research shows that mistakes actually increase a child's capacity to learn and grow the brain (Boaler, 2016). Explain to children that their brain is like a muscle which gets stronger with exercise – they'll find it fascinating!
- **Praise carefully!** It's so easy, when you're feeling proud, to say things like "well done – you're so clever". This can reinforce a belief that children are either good, or not good, at something. Try to celebrate effort by saying things like – "well done – you tried so hard".
- **Talk about learning!** When talking to children about their day, ask them about what they learned. Question whether they tried hard, and whether they were challenged. Celebrating the learning process is key.
- **Encourage practice!** If children dislike maths, they may not want to do their homework. Remember to tell children that practice is the key to success!

