

Value, Belief and Persistence



Maths matters.

Everyone uses it every day, often without thinking about it. It's used at work and at home, in managing finances and helping children with their homework. But many adults struggle with maths. Others get by but may not have the skills and confidence with numbers they need to get where they want to be in their career or to work with numbers in their daily life.

Many people are anxious about maths and will do anything they can to avoid it. Others just do not believe they can do better. National Numeracy knows that busting the myths around numeracy and helping people to change their mindset is vital in helping them improve their skills.



Understanding maths anxiety

Experiencing maths anxiety is very common. Many people suffer 'mind blanks', stress or even physical symptoms such as a racing heart when faced with maths problems. People who experience anxiety around maths often avoid situations where they may have to use numbers.

This can prevent adults from getting started with learning. We often hear people saying things such as:

"Maths is like a bully to me. The numbers, they intimidate me, so I used to shy away from them."

Distribution worker

"My mind just goes blank, I have a complete mental block and I can't do anything to do with numbers."

Administrator

"When you mentioned maths, I literally wanted to run out of the room. I could feel my blood pressure rising."

Healthcare Assistant

These kind of responses are often caused by past bad experiences of maths. School experiences, home or family life, the prevailing negative culture towards maths in the UK and learning difficulties like dyscalculia can all play a part.

For adults to take the difficult first steps to improving their numeracy skills, it's important to address these engrained attitudes and strongly-held beliefs surrounding numeracy.

To begin with, understanding that learning as an adult is very different from learning at school helps adults to take that first step into learning. Learning as an adult offers more choices including what, where and how to learn.

Using the National Numeracy Challenge, people can learn in their own time and space, and there is no one looking over their shoulder, which often increases anxiety.

The National Numeracy Challenge is based on different, more practical everyday skills than the maths we learned in school. It has been built specifically for adults who want or need to improve their numeracy skills, including those who have low confidence.

The Value, Belief and Persistence approach is based on research around building positive responses to negative situations. It's as much about attitudes and mindsets as it is about maths.



Oreleo's story

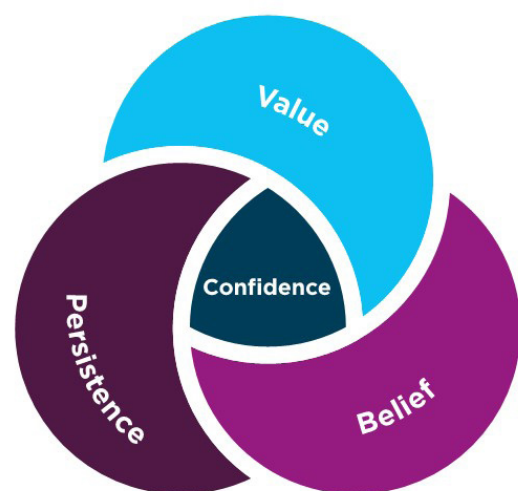
Oreleo had a shaky start with maths, which began in primary school when his teacher called him useless. He felt there was no point in trying.

Maths continued to hold him back later in his life, for example when it came to finances, he would avoid making decisions. He said, "The anxiety stuck around until I was nearly thirty."

After working through his barriers, Oreleo used the National Numeracy Challenge and has since completed his Functional Skills Level 2 in Numeracy.

"The anxiety stuck around until I was nearly thirty."

In this guide, we outline National Numeracy's framework of Value, Belief and Persistence. This is an approach aimed at dispelling the myths around maths and introducing a more positive approach to improving numeracy skills.



Value

“Understand the importance of maths in everyday life and the benefits of improving numeracy”

Value is the motivation to learn. When people are asked to learn something, they need to know why it is useful. People need to know the benefits that improving their numeracy will bring them.

Many people are told “it’s ok to be bad at maths”, and evidence shows that many people grow up thinking that they don’t need maths. We often hear people say, “I don’t need maths in my life or my job so why do I need to improve?”

Often maths is associated with topics taught at school, such as algebra and trigonometry, which do not necessarily hold value in everyday life.

But when people start to think about where they do use maths in their everyday life, they usually come up with many examples. We need to make sure learners understand where they use numeracy both at work and home such as planning journeys, managing their money, cooking and shopping.



Activity idea

Ask the people you support to think about one task they regularly do at home or at work. What numbers are involved? Discuss how numbers are useful and important in everyday life.



Jason's story

Jason always found maths daunting. He wanted to improve because he was unable to help his children with their maths homework and he felt he was letting them down.

He said, “Originally, I did it for my kids, but I found it helped with work too.” Jason felt more confident to do well in his job at a distribution centre and used his new skills to take on more responsibilities.

He no longer shies away from situations that involve maths. Even everyday challenges became easier, he said, “Being able to split the bill in front of my mates made me feel ten feet tall.”

“Originally, I did it for my kids, but I found it helped with work too.”

Belief

“Recognise that ability is not fixed and develop a can-do attitude”

Belief means understanding, accepting and recognising that everyone can improve their numeracy.

Importantly, for learners, it’s being aware that if ‘everyone’ can improve, then that means they can too.

When learners are anxious about maths, it’s valuable to explore where their fears may be coming from. Often it is not the maths itself. It may be to do with the way they were taught, the kind of things they think of as maths or things they were in told in childhood.

People’s mindsets around maths have often developed from experiences at school, a fear of failure or worries about looking stupid. Maths is one of the first subjects in which children are put into sets, so at an early age they are led to believe they are either good or bad with numbers.

This causes many people to believe that some people are born to be good at maths and that they are not one of them. They therefore believe that they can never be good at numeracy. This is known as a ‘fixed mindset.’¹

Learners need to be assured that everyone can improve their numeracy. People like to learn in different ways and learn at different paces but their ability is not fixed in stone. There is no evidence that there is a ‘maths gene’ that makes some people better at maths. Understanding this is known as having a ‘growth mindset.’ It helps to reframe thoughts to have more of a growth mindset. For example, going from, “I will never get this,” to “I haven’t understood this yet.”



Activity idea

Have a look at the ‘Mythbuster’ document with the people you support. Do they agree or disagree with the statements? Why? Use the poster to bust some common myths about maths.



Susan's story

Susan was fed up with not feeling comfortable with the maths needed to work with money. She tried to avoid the financial aspects of her job, which was a tough act to pull off considering she managed the office budgets!

She was determined not to accept her parents’ philosophy that her family was genetically bad at maths. Despite finding it difficult, she kept going and didn’t give up until she had achieved her goals.

She said, “I knew I could address my issues if I put in a bit of effort.”

The National Numeracy Challenge has helped Susan to make sensible financial decisions and she now feels more confident to keep refreshing her skills.

“I knew I could address my issues if I put in a bit of effort.”

¹ Dweck, C. S. (2006). *Mindset: The New Psychology of Success*. New York: Random House Publishing Group.

Persistence

“Recognise that everyone struggles in order to succeed – it’s part of the learning process.”

It helps if people recognise that improving their maths skills may feel hard. Learning any new skill is difficult and it is often a struggle. But struggling does not mean that someone can’t improve or that they are simply bad at maths. Everyone struggles at some point and making mistakes or finding it hard is a normal part of learning.

When learning to drive, people don’t expect to get the hang of it straight away. It takes many hours of practice to learn. Many people don’t pass a driving test the first time. Some don’t pass the second or third time either. But they’ll usually get back in the car and take more lessons until they’ve got the skills they need. They

don’t think, “I’m just not a driving person.”

When you, or learners you are supporting, face barriers to learning, we have found the following helps:

- Understanding how you learn most effectively, whether that’s in a classroom environment or in your own space and time
- Setting realistic goals
- Learning in daily bite-size chunks
- Asking for support when you need it
- Seeing mistakes and setbacks as useful rather than off-putting

- Finding different ways to solve a problem if the first attempt doesn’t work



Activity idea

Ask the people you support to share something else in their life they have struggled with and had to persevere with, such as learning to drive. Talk about how learning maths is no different to learning any other skill: it takes persistence, time and effort.



Jade’s story

When Jade heard there was a numeracy module in a workplace training programme she was taking, she was ‘petrified.’ She said, “Straight away, I thought I was going to struggle.”

She didn’t get the Essentials of Numeracy on her first attempt using the National Numeracy Challenge and she was finding it hard to keep trying. “At first, I was ashamed to ask for help and, while my score was improving, I was still finding it difficult. However, I did find the courage to seek support.”

On a further attempt, Jade improved her score, but it still wasn’t enough to complete her course. Jade said, “It was hard to keep going and not be put off. But I still didn’t give up.”

She worked though the online resources and finally managed to get the Essentials of Numeracy. “I was so happy and proud of myself that I kept trying and finally reached my target.”

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Rachel’s story

Rachel is a manager in the Civil Service who never thought of herself as a maths person. But instead of accepting this, she looked for support online.

She pushed herself to give the National Numeracy Challenge a go. Rachel found that it helped by allowing her to go back to basics and refresh her learning.

By breaking it down into manageable sections and persisting with working on her weak spots, she improved her skills and confidence.

She said, “Learning can be difficult, but it’s like running: you wouldn’t run a marathon without improving your stamina over a period of time.”

Talking about her experience of the National Numeracy Challenge, she said, “It is no exaggeration to say, it has potentially been life changing.”

“Learning can be difficult, but it’s like running: you wouldn’t run a marathon without improving your stamina over a period of time.”



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