



**Ishraq Li-Rahman and Laura Hill**

**Corporate Volunteering Programme**

**Supporting Children**

[nationalnumeracy.org.uk](http://nationalnumeracy.org.uk)

## Session Objectives

- Understand the numeracy issues in the UK, some of the problems we face with numeracy and the impact they have on people.
- Learn about maths anxiety and how people can overcome it.
- Discover ways to support children to develop positive attitudes towards maths.
- Explore the next steps in your journey as a Numeracy Volunteer.
- Understand your duties and responsibilities in the safeguarding of children.

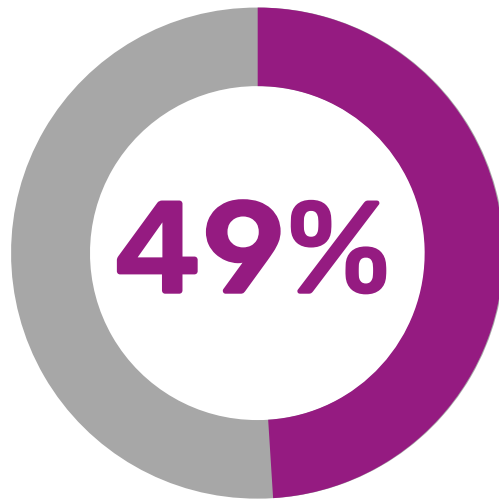


## How do you feel about maths?

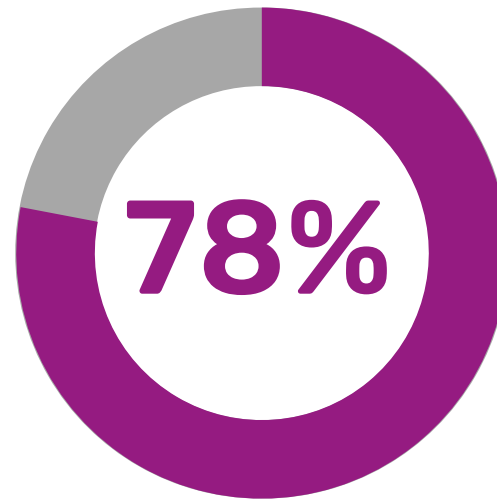




## Numeracy issues in the UK



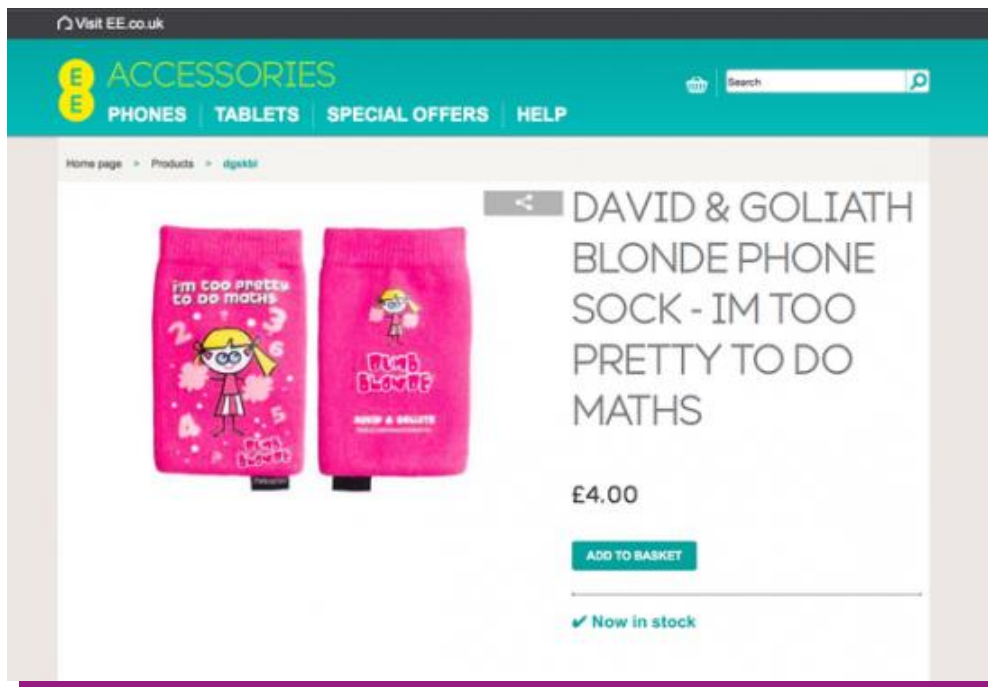
of adults have the numeracy skills expected of children at primary school



of adults are working below Level 2 ('C/4' at GCSE)



# Culture around Numeracy in the UK



## Girls shun physics A-level as they dislike 'hard maths', says social mobility head

Female physicists question 'terrifying' claims made by government commissioner Katharine Birbalsingh to MPs

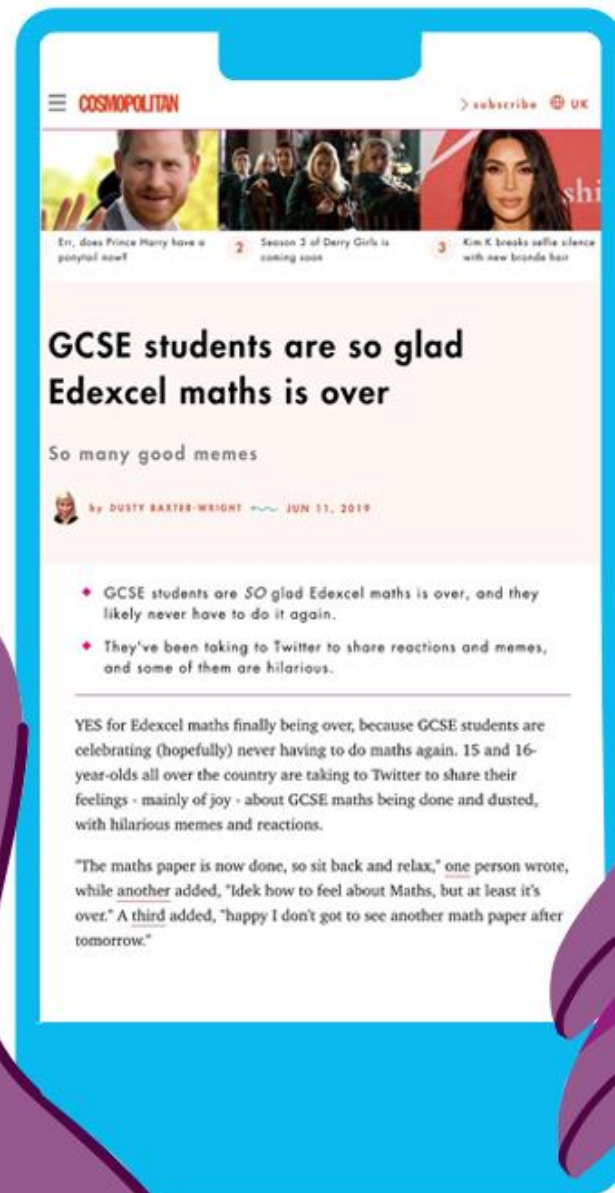


📷 Researchers found teacher-student relationships played a big role in A-level choices and that gender stereotyping continued to be an issue. Photograph: Mike Goldwater/Alamy

Girls do not choose physics A-level because they dislike “hard maths”, the government’s social mobility commissioner has claimed, prompting anger from leading scientists.

**“GCSE students are SO glad it is over and they will never have to do maths again.”**

**“15 and 16 year olds up and down the country are celebrating (hopefully) never having to do maths again.”**





## The impact of poor numeracy on adults

- Reduced employment prospects
- Inability to progress in some careers
- Poor productivity
- Low confidence and self-esteem
- Poor financial capability
- Social mobility
- Impacts on home life



## The impact of poor numeracy on children

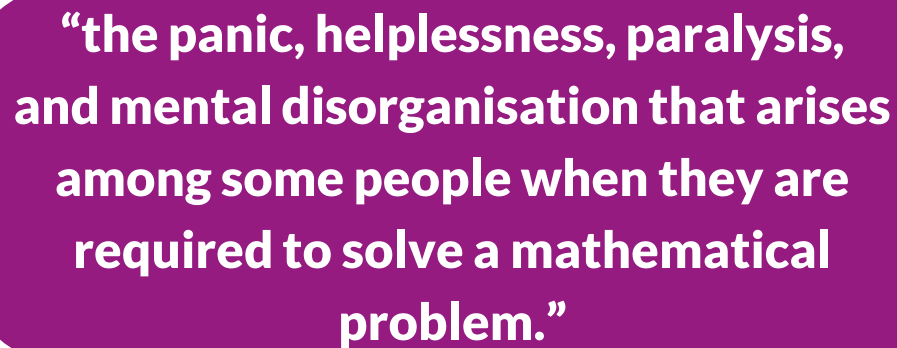
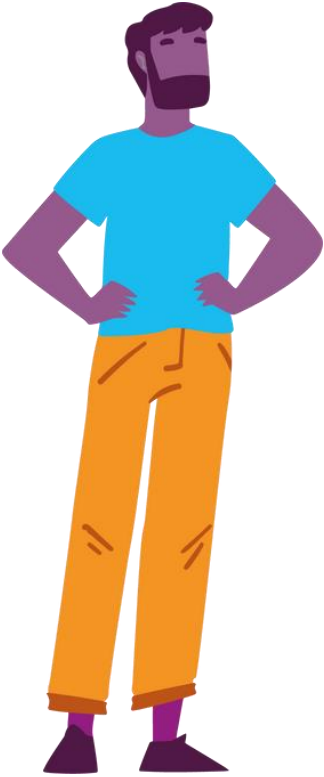
- Children replicate positive and negative behaviour
- Generational issue
- Impact on subject choices and career aspirations
- Low confidence and self-esteem



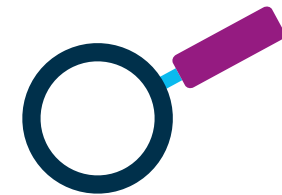
# Maths anxiety

Maths anxiety has been defined by Tobias and Weissbrod (1980)

as,



**“the panic, helplessness, paralysis, and mental disorganisation that arises among some people when they are required to solve a mathematical problem.”**



Research by the University of Cambridge has found that, “many children and adults experience feelings of anxiety, apprehension, tension or discomfort when confronted by a maths problem.”

## Maths anxiety in children

- Children as young as 6 experience maths anxiety (Cambridge University/Nuffield Foundation study 2019)
- The same study found that, 'the majority of those with maths anxiety had normal performance.'
- 30% of children aged 4-6 said they felt worried or anxious when undertaking maths tasks (Abertay University study)

# Maths anxiety: why do people feel this way?

Negative experiences  
at school

Lack of  
support

Fear of  
failure

Being told  
you're not  
a maths  
person

Feeling under  
pressure

Dyscalculia

## Dyscalculia

- Learning difficulty
- Affects basic arithmetic
- *Recall pin numbers, telephone numbers, planning journeys, estimating, ordering, sequences*
- Advice and support from Dyscalculia Network
- Can improve their maths

## Maths anxiety: what does it look like?

**Feeling  
panicked or  
stressed**

**Avoiding  
situations  
which involve  
maths**

**Feeling  
flustered or  
struggling to  
concentrate**



**Physical  
signs**

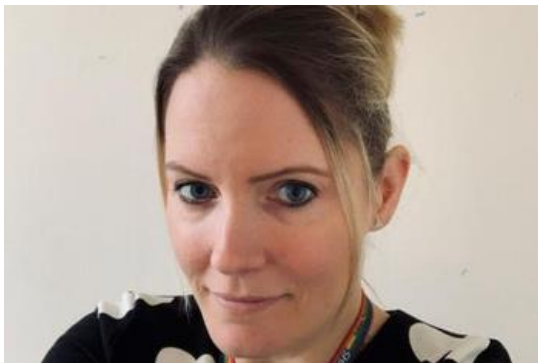
**Frustration  
and  
'shutting  
down' or  
'going blank'**



## Maths anxiety: some real perspectives

*“Even the thought of it would dry my mouth and make my palms sweaty. I remember the first day of school with everyone reciting their times tables and thinking, “I don’t know what’s going on”, feeling totally lost and frozen on the spot.”*

**Stacey, Chichester**



*“Maths has always been my weakness, and at school I was never given the help to understand and overcome my problems, so I left school without a qualification in maths.”*

**Louise, Kent**

## Tips for supporting children with maths anxiety

- Normalise struggle and encourage growth mindset
- Take it slowly
- Reduce pressure
- Turn maths learning into things that don't feel like maths
- Be careful not to show your own anxieties
- Challenge commonly held beliefs



# Numeracy Volunteers – Primary school activities

## 'My Maths Story' and 'Maths in the Real World'

Both activities aim to:

- inspire children to see the maths in life beyond school.
- enable pupils to make the link between what they are learning and the world of work and think about jobs that involve maths.
- challenge stereotypes about careers and the world of work.



# My Maths Story Assembly




My Maths Story

Volunteers name and company




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**Before I start...**


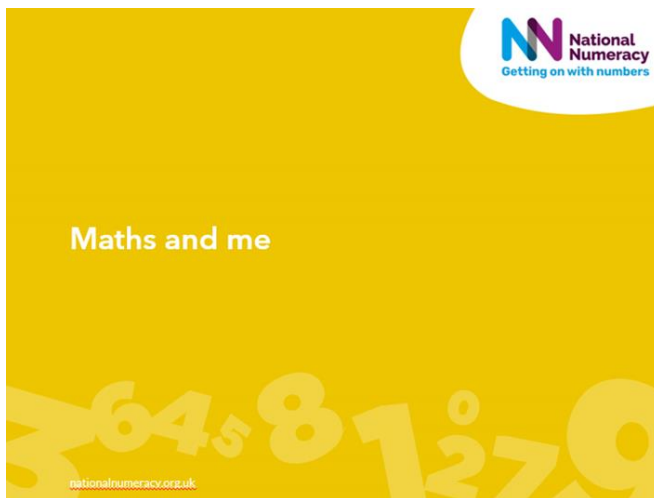
Can anyone tell me how they use maths or numbers outside of school?

We'll come back to this question later.



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## My Maths Story Assembly



**When I was at school, this is how I used to think about maths:**

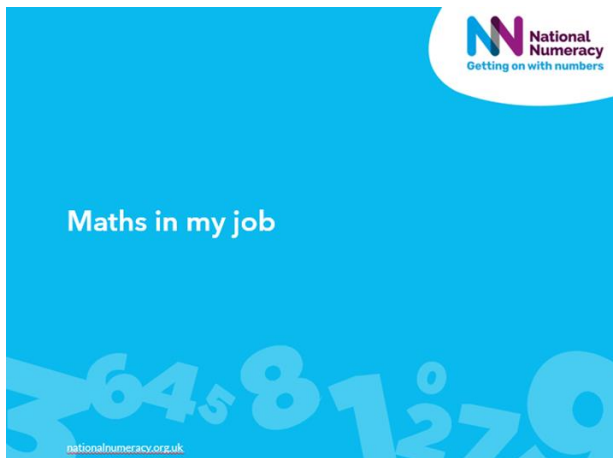
At school I didn't always enjoy maths and I often found it difficult. I had to work hard but luckily; I had wonderful teachers who helped me.

**Now I'm an adult, this is how I feel about maths:**

Maths is so important! Now I'm an adult I need to use the skills I learnt at school everyday in different ways.

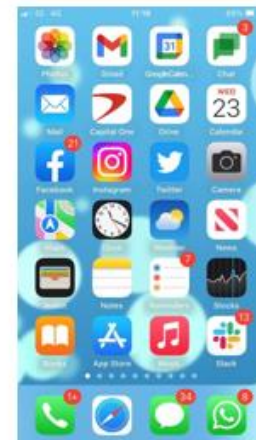
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# My Maths Story Assembly



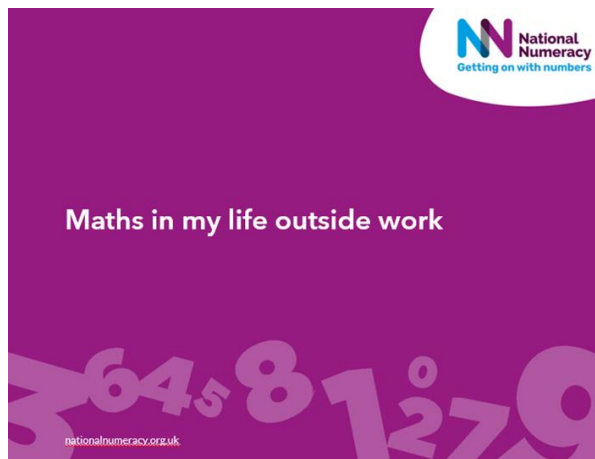
## Maths in my job

- I am a Software Engineer at Capital One
- I build computer programmes, websites and apps
- I use maths to write processes that make our software programmes work.
- I also use maths to improve the performance and quality of the software we build.
- Does anybody want to ask me anything about my job?



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# My Maths Story Assembly



## I use maths to get to places I need to be



For example, today...

I had work out what time to wake up and what time to leave home

I had to work out how long I could spend at the gym so I got a good workout, but wasn't late for work

I had to calculate how long it would take to travel from the office to this school and what time a taxi needed to collect me so I was on time



What could have happened if I didn't use maths today?



# My Maths Story Assembly

## Maths in my life outside work

I use maths...

- To plant seeds and grow vegetables
- To bake cakes
- To budget for shopping



Does anybody want to ask me anything about how I use maths outside of work?


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## My Maths Story Assembly



# My Maths Story Assembly

Who can think of some more ways that you use maths or numbers outside of school?



**Everyone uses maths everyday**

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## Assembly Plan

Slide	Ideas for discussion	Key messages to get across	Approx time
My Maths Story	<p>Introduce yourself and your organisation.</p> <p>I'm here to tell you all about My Maths Story - how I felt about maths at school and how I feel now and how I use it every day.</p>	In basic terms, what your organisation does eg 'helps people make good decisions about money'	1 minute
When I was at school this is how I used to feel about maths	<p>Explain briefly why you felt this way or if it changed over time. Examples:</p> <p>"I enjoyed maths at primary school, but I found it difficult sometimes as I got older. Luckily my teacher at secondary school took the time to explain things to me, and I passed my exams."</p> <p>"I didn't get on very well with maths at school because I didn't see how it related to my life, but that's changed as I've got older."</p> <p>"I was lucky that I had a great teacher at school, and I really enjoyed maths - and that's stayed with me."</p>	<p>It's normal to find things difficult.</p> <p>It's ok to take things slowly.</p> <p>We can all learn and improve with time and effort.</p> <p>Some people learn quickly, and some need more time and help and that's ok.</p> <p>How we feel about maths can change over time.</p>	2 minutes

## Maths in the Real World classroom session

- Introduce volunteers and fictional characters
- Children work in groups to think about how their character uses maths in their job and hobby
- All answers are good answers!



## Maths in the Real World classroom session

### Let's meet our characters!

Think about how they use maths in their jobs and hobbies



Jamie

### Jamie is a Nurse

- Cares for people suffering from illnesses and injuries
- Checks and give medicines
- Helps with x-rays and blood tests
- Watches and writes down patients' progress

He also loves to bake yummy cakes and biscuits for his friends!

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## Activity Dos and Don'ts

### Do

- Talk positively about maths. Children learn from example so avoid saying things like 'I hated maths at school' or 'maths was boring'. Be honest in that you may have found it difficult but try to make it into a positive e.g. you had to ask for help, had to work hard.
- Speak slowly – keep your language simple and amplify your voice
- Ask children with their hands up for the answers – don't forget the ones at the back!
- Repeat the child's question out loud so that everyone can hear what was asked before you answer.

### Don't

- Don't ask questions like 'Who loves maths?', 'Who is good at maths?' or 'Who finds maths hard?'
- Don't include examples of actual maths calculations or ask maths questions.

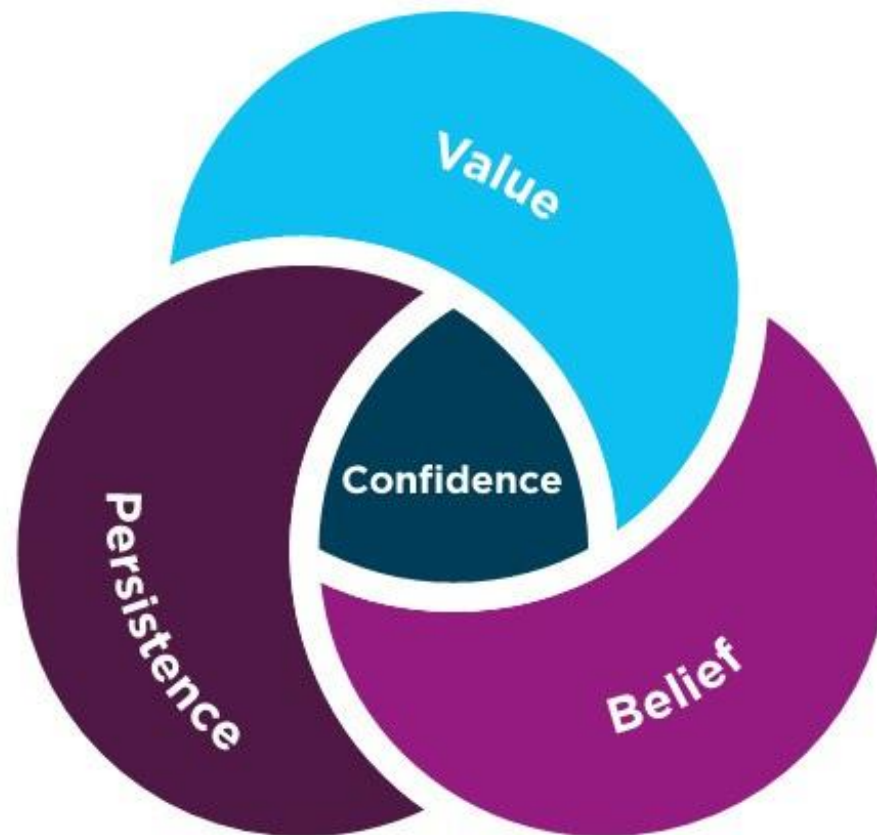


Do

As far as possible fulfil commitments made to schools



## Thinking differently about maths



# National Numeracy's top tips for supporting children

1

**Point  
out maths in  
the real world**



2

**Be positive  
about  
maths**



3

**Praise effort  
rather than  
talent**



4

**Improve  
your own  
confidence**



# Point out maths in the real world

## Pointing out maths in the real world

For example:

- Planning journeys
- Getting ready for school/work
- Shopping
- Cooking
- Video games
- Sports



# Talking positively about maths


## Here are some things people sometimes say to children about maths.

Have you heard these things being said?


Why might these be unhelpful to say to children?

What could be said instead to encourage positive attitudes in children?

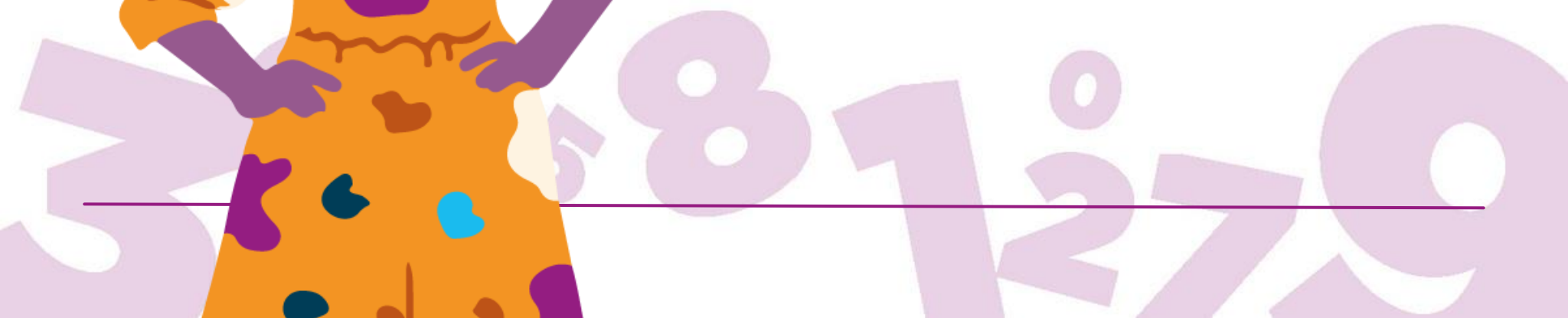




**“I was never any  
good at maths at  
school and it did me  
no harm.”**



**“I’ve always been good at maths; it comes naturally to me. I have a maths brain.”**





**“Well done for getting  
that right. You’re so  
clever.”**



# Praise effort rather than talent

## Praise effort rather than talent



### Praising Talent

*“Well done, you’re so clever.”*

*“You’re naturally really good at this.”*

*“It’s amazing that maths is so easy for you.”*



### Praising Effort

*“Well done for working so hard at that.”*

*“You’ve learned so much, well done.”*

*“It’s great that you kept going with that even when it was tricky.”*

## Praise effort rather than talent: why does it matter?

- Positive reinforcement
- Shows that it is hard work that makes success, not natural ability
- Helps when children begin to find it hard
- Encourages growth mindset

# Safeguarding

## Safeguarding Dos



- Let us know with as much notice as possible if you are unable to attend a session.
- Always sign in and out at reception. Make sure the sticker or lanyard you are given is displayed prominently on your person. Have photo ID ready.
- Dress appropriately.
- Speak clearly, be friendly, enthusiastic and empathetic.
- Always be in open view when working with children or young people. There should always be a staff member present.
- Use staff toilets – ask a member of staff if you're unsure where they are.

## Safeguarding Don'ts



- Never be alone with children or get into a situation where you and an individual child or children are completely unobserved.
- Don't have physical contact with a child or young person, except where there is danger of harm.
- Never share any contact details or personal information that could be used to identify you, except your name and company.
- Don't accompany a child to the toilet or use the children's toilets.
- Don't take photos while volunteering in a school. If they wish to schools will take photos.
- Keep your phone concealed and turned off at all times.
- Don't contact a child outside of school, any questions and answers following your volunteering session should be routed via the school.

## If a child or young person makes a disclosure to you

- listen unconditionally
- don't judge or show shock or any sign of disbelief
- reassure the child that they have done nothing wrong
- only ask necessary and open questions (tell me, explain to me, describe to me).
- do not promise secrecy, you will have to share information to ensure the child's safety.





## Reporting a Safeguarding Concern

Ask at reception to speak to the school's Safeguarding Lead or member of the Senior Leadership team.

Complete a Safeguarding Form before leaving the school.

Let the National Numeracy Volunteering Manager know that you made a report.

If you don't hear anything from the school, you can follow up with them afterwards to see what action was taken.



Please read our Volunteer Safeguarding Summary prior to attending a school.

# Safeguarding Scenarios

What should you as a volunteers should do in these situations?



## Scenario 1 – Responding to a Concern

A volunteer in a school notices a bruise on a child's arm. When asked about it, the child hints that it was not accidental and happened during her music lesson outside of school. The child asks the volunteer not to say anything.

The volunteer is worried about the child but is unsure what to do. The music teacher is well known in the community, and they don't want to cause any problems.

What should the volunteer say to the child?

*A – Tell them that they have done the right thing in telling them and that it's not their fault.*

*B – Tell them that they will have to tell a teacher at school so they can keep them safe.*

*C – Tell them they will keep it a secret as they asked them to.*

What should the volunteer do next?

*Follow the school's safeguarding procedures to report the concern to a Designated Safeguarding Lead.*

## Scenario 2 – Noticing a concern

Two volunteers at an art group notice a father shouting at his 8-year-old daughter when he comes to collect her. He is shouting in another language, and they aren't sure what is being said. They overhear that other parents are worried about the child and say the father often appears to be quite angry. The volunteers are concerned this might be emotional abuse, but they don't want to report it in case they have misunderstood due to the language barrier.

Should the volunteer wait until the child tells them about abuse they are experiencing before taking action?

*A - No. Never wait until a child or young person tells you directly that they are experiencing abuse before taking action.*

*B – Yes, wait until the child says something as we have no evidence that this is abuse.*

Should the volunteer consider concerns about cultural sensitivity before taking action?

*No. Do not let concerns about cultural sensitivity stand in the way of safeguarding children and young people.*

What should the volunteer do next?

*Follow the school's safeguarding procedures to report the concern to a Designated Safeguarding Lead. In your notes state what is fact you've witnessed and what is information you've heard from others.*

## Scenario 3 – Whistleblowing

While assisting in a school, a volunteer is concerned with how a staff member is interacting with one of the children. The volunteer noticed that whilst supporting one child, they continually ignored another child's attempts to communicate with them, telling the child to 'go away.' The child started to cry and the staff member told them to, 'stop being such a baby' and walked away. The volunteer noticed that the other member of staff in the room consoled the child and supported them with the activity.

Should a volunteer be able to challenge and report the behaviour of a member of school staff?

*A - No, it's not our place to comment on school staff behaviour.*

*B – Yes, all staff and volunteers should feel confident about challenging and reporting the behaviour of others and voicing concerns.*

What should the volunteer do next?

*Any concern about someone's behaviour with children and young people should be reported following the school's safeguarding procedures to the Designated Safeguarding Lead. The person the concern is reported to will decide how best to respond.*

## Next steps

- Volunteer training feedback form.
- Volunteer registration form.
- School's bookings.
- Slide deck templates and resources.
- Please ask if you need any support.



# National Numeracy Challenge

## Family Maths Toolkit



## Follow us and share!



National Numeracy



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**Number Confidence Week 4<sup>th</sup> – 8<sup>th</sup>  
November**

**Thank you for joining us today!**

Any questions?

✉ [Laura@nationalnumeracy.org.uk](mailto:Laura@nationalnumeracy.org.uk)



# Feedback form