



Help Your Child Love Maths! Workshop Plan

Planning the workshop

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| Total time required for the workshop | <u>1 hour</u> |
| In-person requirements | <u>Computer/laptop and projector</u> <u>Wifi/internet connectivity</u> <u>Room layout to facilitate group discussions</u> |
| Online requirement | <u>Set up virtual meeting with functionality to screenshare and set up breakout rooms (optional)</u> |
| Other resources you'll need | <u>Powerpoint slides</u> <u>Link for the National Numeracy Challenge</u> |

Running the workshop

The one-hour workshop is made up of five key parts:

1. Introduction
2. How do you feel about maths?
3. Maths in the real world
4. Talking positively about maths and praising effort rather than talent
5. Introducing the National Numeracy Challenge

This workshop plan gives guidance on how to run each section of the workshop.

1. Introduction

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|---------------------------------|------------|
| Relevant slide(s) on PowerPoint | 1 |
| Timing | <5 minutes |
| Materials needed | None |

- Open the workshop by explaining clearly that the purpose of the session is to support adults to develop positive attitudes in the children they support. The session will explore each of National Numeracy's top tips for supporting children.
- It is aimed at adults supporting children, including parents, carers, grandparents, school staff, etc.
- As some people may be feeling anxious about the session itself, explain that there will be no actual maths involved – no tests or quick fire times tables or worksheets!
- Take the opportunity to encourage people to participate by telling the group that you hope the session will be interactive.

2. How do you feel about maths?

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|---------------------------------|------------|
| Relevant slide(s) on PowerPoint | 2-3 |
| Timing | <5 minutes |
| Materials needed | None |

- Set up the activity by asking the group: "How do you feel about maths?"
- You may wish to ask them to think of a time when they've been faced with maths, or how they would feel if they were suddenly asked to do a calculation in front of the group. This will help participants to understand what you are asking. You could also share [this video](#).
- Ask participants to:
 - Choose one word they would use to describe the emotion.
 - Discuss their chosen word with the people around them. If you are delivering the workshop virtually, you could put participants into breakout rooms to discuss their feelings.
 - Talk in groups about why they have chosen this word: where might this feeling have come from?

Give the group at least 5 minutes to discuss this amongst themselves.

- After 5 minutes, bring the group back together and facilitate a whole group discussion. Ask people to volunteer to share their word and why they feel this way. You can then share the word cloud on Slide 3 demonstrating how common it is for people to feel anxious or nervous about maths.

Further guidance

In this activity, you will usually find that people say they feel anxious, nervous, stressed, panicked or similarly negative emotions around maths. It's important to recognise, and for participants to know, that this is not unusual.

You may come across people who have more positive experiences and say they are good at maths. It can be useful to reflect the differences in their past experiences that have fed into this, showing that it's not simply 'natural' ability that shapes their view.

As this activity is a discussion piece, the responses will vary on what participants share.

As people share their experiences, respond by linking their stories to the core messages of the session:

- There is no 'maths gene' – our abilities come from nurture not nature. This includes our school experiences, parental engagement and cultural factors.
- Ability is not fixed; everyone can improve.
- The maths we use in the real world is different from the maths we learned at school.
- It doesn't mean you're bad at maths if you don't have a GCSE.
- We still use maths after school and our school performance is not an accurate reflection of our ability. Even if we were in the bottom set at school or were told we couldn't do maths, we are disproving that everyday day as we use numbers in our day-to-day life.
- It's not uncommon to feel anxious, stressed or exposed when faced with maths – if people are feeling that way, they are not alone.

The goal of the activity is to give people space to speak about their experience, to ease anxieties and to deconstruct their pre-conceived notions about their own maths ability.

3. Maths in the real world

Relevant slide(s) on PowerPoint.

4 - 9

Timing

10 minutes

Materials needed

None

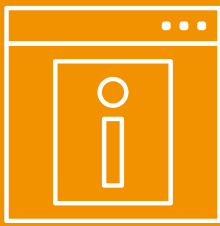
Briefly share National Numeracy's top tips for families for supporting children to develop positive attitudes towards maths. The workshop will look at each of the tips in more detail. You can also share this [video](#) summarising the tips.

Explain that the next part of the workshop will explore National Numeracy's first top tip for supporting children: point out maths in the real world.

It is important that children understand the value of maths in the real world and that it isn't a skill only used during school.

Ask the participants to consider a scenario from their daily life. How are numbers involved? What opportunities are there to point out numbers to your children? Facilitate a discussion of how maths is used in our everyday lives. Point out here that the discussion is focusing on everyday maths – the maths we need to get by in life and work. This doesn't include all of the maths we learned at school, such as algebra and trigonometry.

Here are some examples to share of how maths is used in the real world:



..... **Planning journeys**

- Using time
- Reading timetables



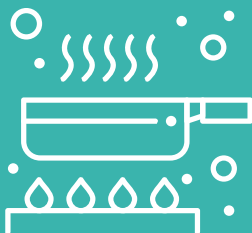
..... **Shopping**

- Recognising coins
- Checking change
- Working out sale prices
- Using a budget



..... **D.I.Y.**

- Measuring materials
- Using ratios to mix materials



..... **Cooking**

- Counting and weighing ingredients
- Using metric and imperial measurements
- Scaling up recipes



..... **Making financial decisions**

- Setting up a monthly budget
- Interest rates



..... **Reading the news**

- Understanding graphs
- Understanding facts and figures, including percentages

4. Talking positively about maths and praising effort rather than talent

| | |
|---------------------------------|-----------------|
| Relevant slide(s) on PowerPoint | 10 - 18 |
| Timing | 15 - 20 minutes |
| Materials needed | None |

National Numeracy's next tip for supporting children is to talk positively about maths. For the activity, explain that you are going to share some things that people sometimes say to children about maths. This activity helps participants to see how some of the language that is often used about maths can be unhelpful.

For each statement, encourage participants to think about why the statement might be an unhelpful thing to say to children and what could be said instead to encourage positive attitudes. Facilitate a discussion for each statement sharing some of the information beneath each statement.

"I was never any good at maths and it did me no harm."

- Parents often say this with good intentions.
- It gives the impression that maths is irrelevant and unimportant.
- This can affect how children engage with maths at school.
- Instead, adults can still admit they struggled with like, *"I struggled with maths at school too but I learned how to use it in everyday life/if we work together, we can find a solution."*

"You won't need to worry about maths once you've finished school."

- This gives no values to maths and numbers.
- It's important to distinguish between the more abstract maths learned in school, like algebra and trigonometry, and the everyday numeracy we need to get by in work and life.
- Instead, you can say things like, *"Maths might be different in the real world, but everyone uses it all the time,"* and, *"I know it's hard at the moment, but this will be useful when you do ... in the future so it's worth sticking with it."*

"It's okay, you can't be good at everything. You're better at literacy, your brother is more of a maths-y person."

- This gives the impression that it's okay not to persevere with maths.
- Putting people into boxes can reinforce negative beliefs about themselves, which can limit what they go on to do.
- Reinforce the idea that people don't have to be either maths or English people. Both are essential life skills.
- Be careful to not inadvertently reinforce gender stereotypes with what you say to children.
- People have different preferences and find different things hard, but everyone can improve at maths.
- There is no scientific evidence of a 'maths gene.' Our mathematical ability is not determined at birth.

"Well done for getting that right. You're so clever."

- This is something most adults have probably said at some point or another and it is important to praise children.
- We need to think carefully about what we are praising the child for.
- This statement praises the child for their correct answer and for being 'clever.'
- This isn't giving value to the effort the child took to get to the answer so if they find a question difficult in the future, they might be more likely to give up.

Instead, it's important to praise children's effort, hard work and persistence.

Praise effort rather than talent

National Numeracy's next top tip for supporting children to develop positive attitudes in maths leads on from this final statement.

Share the slide showing some examples of praising talent and praising effort.

- It's important to praise all children for their effort and determination, regardless of their skills level in numeracy.
- Praising effort, rather than talent gives children positive reinforcement and shows that it is hard work that makes success, not natural ability.
- It helps children when they begin to find their learning hard and encourages a growth mindset. Share the slide with further information on growth mindset.
- Growth mindset is a widely accepted education theory developed by psychologist Carol Dweck, which compares two ways of thinking.
- A fixed mindset focuses on the belief that talent is innate – we are born with or without an ability. There is no point trying to improve if you aren't born with the ability.
- A growth mindset believes that ability is not fixed. You can learn and improve at anything if you put enough time and effort into it as ability isn't something you're born with.

We are capable of operating at either end of the spectrum at different points in our lives. It is common that both adults and children tend to work more in the fixed mindset when it comes to maths. However, there are examples of when people display a strong growth mindset, such as learning to drive: it's common for people not to pass their test first time and to book another test and complete more lessons to practice.

5. Introducing the National Numeracy Challenge

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| Relevant slide(s) on PowerPoint | 19 - 21 |
| Timing | 5 minutes |
| Materials needed | Link to the National Numeracy Challenge Video <u>'What is the National Numeracy Challenge and how can it help me improve my numeracy?'</u> |

While some parents/carers may feel happy with their level of maths, some may feel more confident with supporting their children if they brush up on their own skills and improve their confidence with numbers. The National Numeracy Challenge is a free, online learning tool designed to help adults improve their everyday maths skills in manageable steps whilst building their number confidence. It is based on maths in the real world – at home, work or supporting children. It is free to the user, can be used on any device, including mobile phones and can be installed as an app.

Begin by sharing the video, "What is the National Numeracy Challenge & how can it help me improve my numeracy?"

- Register on the National Numeracy Challenge using the link provided
- Complete the initial quick check assessment to understand their current numeracy level and access bespoke learning resources
 - Users can save and log out and return to the quick check at any time
 - Users are encouraged to use a calculator if needed
 - It is important that participants understand that the quick check is not a test
 - The quick check will adapt to their ability and will stop asking questions when it has gauged their current numeracy level
- Work through the bite-sized learning resources from the questions they got incorrect in the quick check
- Retake the quick check or take a longer check-up assessment
- Access attitudinal resources to help make learning maths a bit easier and less stressful

Give participants the chance to register on the [National Numeracy Challenge](#).

At the end of the session

After the session, please email schoolsandfamilies@nationalnumeracy.org.uk to inform us of the date of the workshop and the number of attendees.