



Family Maths Toolkit

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Family Maths
Activities

Mindsets

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Any questions, please email:
enquiries@nationalnumeracy.org.uk

familymathstoolkit.org.uk



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Introduction

Positive attitudes towards learning are important when it comes to being confident with numbers. This family engagement resource aims to promote the development of positive mindsets through short, fun activities that children and families can do together.

There are 6 activities in the pack, created by National Numeracy. The activities are organised in this pack by key stage, so that they get progressively harder. However, you may wish to use an activity from another age group if appropriate. The individual activity sheets are not marked with the age or key stage, but they are colour coded so you can tell the difference.

Each activity includes comment boxes for children and families to reflect the discussions and thoughts prompted by the activity.

This pack contains:

- An overview showing the suggested split of the activities by key stage.
- 6 activities, in the order given in the overview.

The activities in this pack are primarily focused on mindset rather than maths skills or curriculum. They are open-ended activities, so no answers are provided.

We recommend using these activities alongside the year group packs of Family Maths activities that are focused on developing maths skills.

Overview

Key Stage / Age Group	Activities
EYFS (age 3-5)	Building Towers Now I can...
KS1 (age 5-7)	Snakes & Ladders
KS2 (age 7-11)	Drawing
KS3 (age 11-14)	Learning Survey
KS4 (age 14-16)	The path to success

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Building Towers



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Milo and Mia are playing together. They are trying to build tall towers with their building blocks.

Talk about

Things don't always go right the first time we try. Milo and Mia's first towers both fell down.

Who built a tall tower in the end? Why didn't Milo build a tall tower? What did Mia do when her tower fell over? If Milo had tried again, could he have built a tall tower too?

Play and explore

Try to build your own tower. How tall can you make it? Don't forget to have another go if it falls over!

Apply to real life

Talk about other things that aren't easy straight away. What can people in the family do now that they found difficult to begin with?

Family comments:

Child comments:



Milo



Mia



Now I can...



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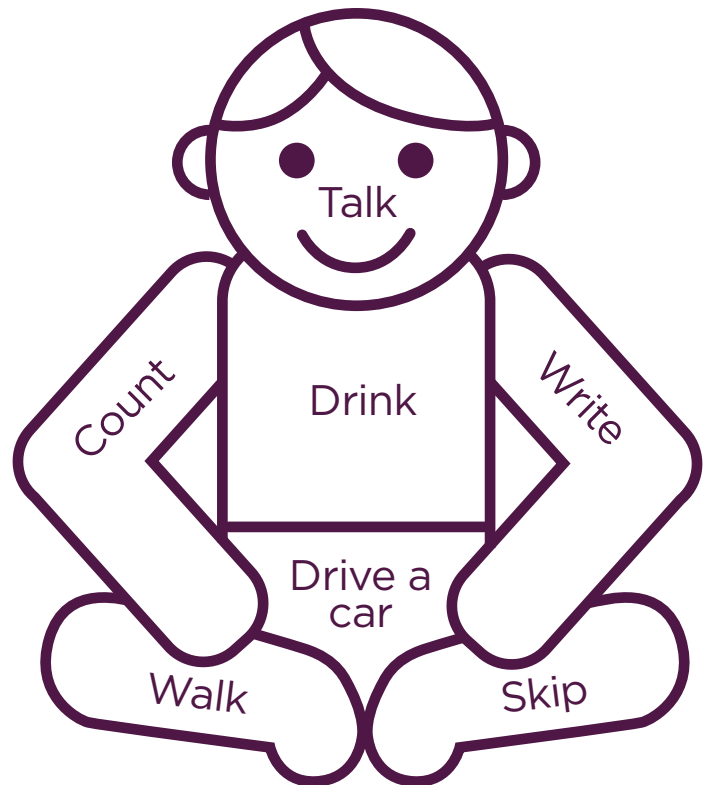
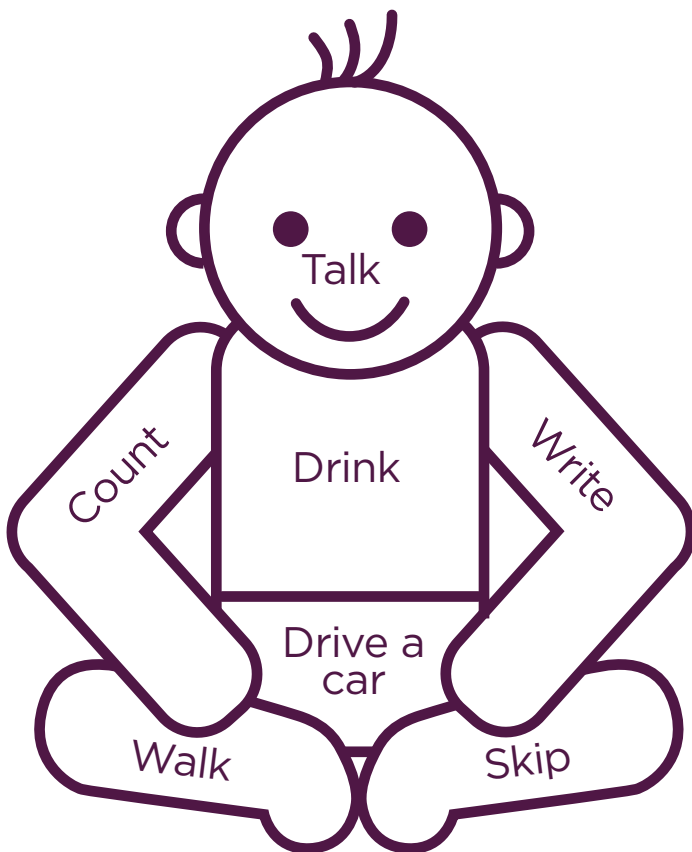
Children learn lots of things all the time! What have you learnt to do since you were a new baby?

Here is a baby. Colour in the things you could do when you were a new baby.

Here is a child the same age as you. Colour in the things you can do now..

When I was a new baby I could...

Now I can...



Have you coloured in more things on the child?

Do you think you will colour in even more things when you're older?

Now I can...



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Talk about

Tips for grown-ups:

Talk about what children learn to do from when they are a baby to when they are 5.

Talk about what they haven't learnt yet but might learn to do soon. Make sure you talk about things outside of school as well as things you learn in school.

Tell them about something you have learnt to do since you were a grown-up.

Apply to real life

Look for new things you are learning or have learnt today.

Today I learnt:

Family comments:

Child comments:



Snakes & Ladders



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Play and explore

Play the game Snakes and Ladders together.

The aim of the game is to reach square 100. Each player starts on square one and takes it in turns to throw the dice and move the number of spaces shown on the dice.

If you land on the bottom of a ladder, you climb up it to the square it ends on. If you land on the head of a snake, you slide down it.

Talk about

As you are playing, talk about the snakes. If you land on a snake, is it still possible to win in the end? Even with the snakes, will all players get to 100 eventually?

When you have all got to 100, had everyone taken the same route to get there?

Apply to real life

Sometimes learning new things is a bit like playing Snakes and Ladders. We know what we want to do but things can get in the way, like the snakes, and make it harder.

Talk about things you have found hard in real life - maybe learning to ride a bike, or something at school or at work. Are there things that are like snakes and set you back? How did you react to the snakes? What about things that are like ladders and help you get better or move forward?

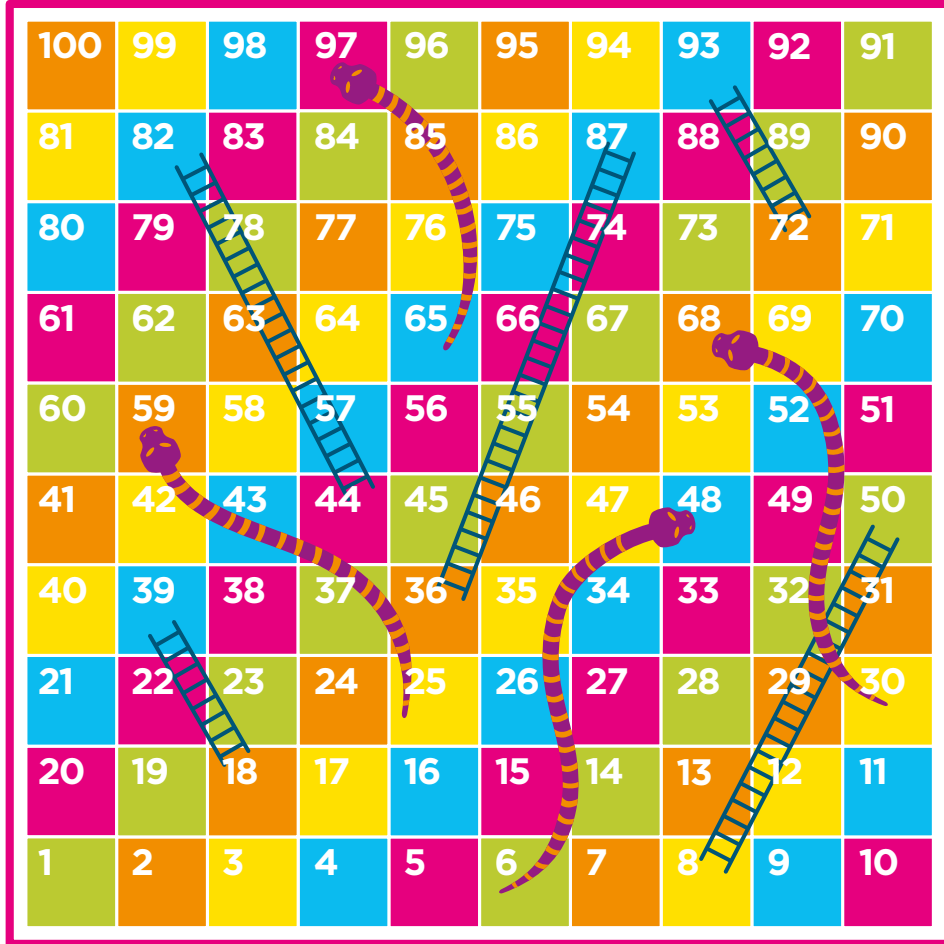
If you don't have a copy of the board game, you can use the example on the next page and make your own counters to play with.



Snakes & Ladders



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Family comments:

Child comments:

Can you draw an elephant?

Have a go and see how you do. Get your family to have a go too!

Drawing can be quite tricky, especially if you're trying to draw something you've not drawn before. Sometimes getting some tips can help us learn how to make our drawings better.

Did you all draw the elephant the same? Are there parts of your family's drawings that you like? How did they do them? Can you help each other improve your drawings?

On the next page is a step-by-step guide for one way of drawing an elephant. Try using these tips to draw another elephant.

What do you like about this elephant?

Draw a few elephants, either using the guide or using your imagination – or bits of both! Which is your favourite drawing?

Talk about

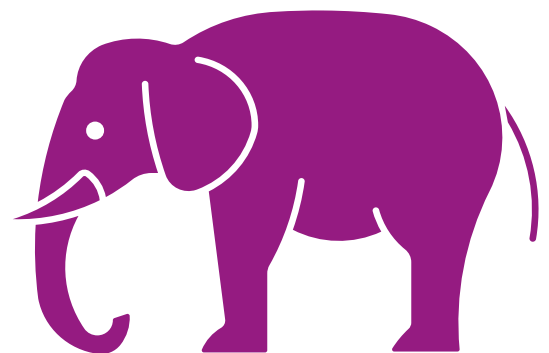
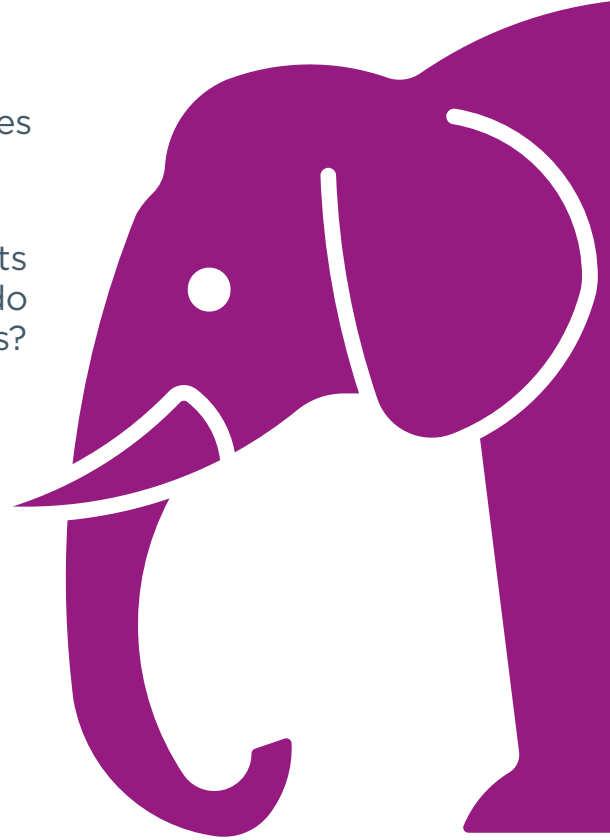
Was it hard to draw the elephant first time? Was your first drawing your best drawing or did you get better with more practice?

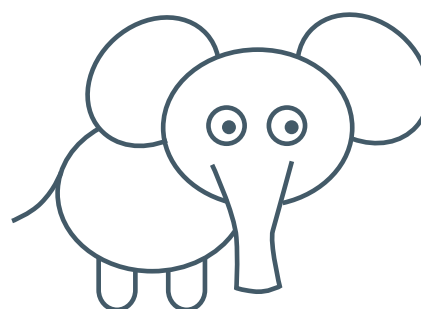
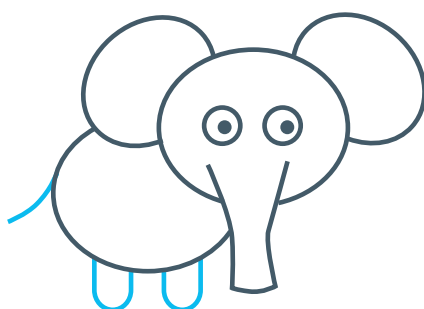
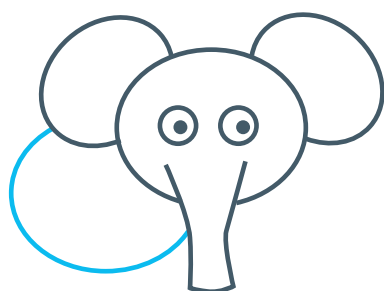
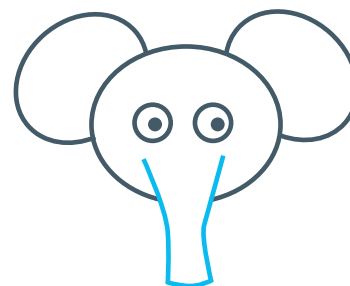
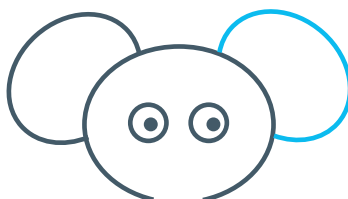
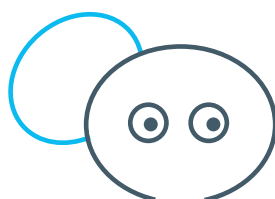
Did tips from your family and from the drawing guide help?

What do you think would happen if you practised drawing an elephant every day?

Apply to real life

What else do people sometimes find tricky to do at first? Are there things you or your family have found hard but got better at with help and practice?





Family comments:

Child comments:

Learning survey



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Learning new things isn't always easy.

To find out more about how we learn things, do a survey of five people's experiences. This could be with family or other people you know.

Ask the following questions and take a note of what they say.

You could record their responses in a table.

1. What is the hardest thing you've ever learnt how to do?
2. How did you feel when you first started trying?
3. What were the difficulties you met with?
4. How did you overcome these difficulties?
5. How did it feel when you got there in the end?

Examples might
be learning
to drive or
running 5km

Talk about

Are there common themes in people's answers?

Did they feel similar things to each other or have similar ways of overcoming difficulties?

Were there any answers that surprised you or your family? What was surprising about them?

Apply to real life

Are there things you are learning now that you're finding difficult?

Think about how the themes from your survey answers might be useful. Did people feel the same way as you when they first started learning? Would you be able to overcome your difficulties in any of the ways people in your survey described? Do you think you'll feel the same way when you get there in the end? See what your family think too!

Family comments:

Child comments:



The path to success

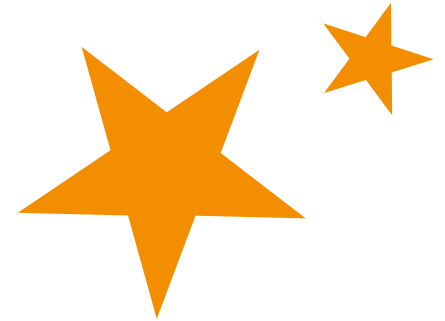


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When we are struggling with something, it may feel like we will never be able to do it. Sometimes it feels like we are simply not good at what we are trying to do.

But everyone experiences those struggles and mistakes – even those who go on to be hugely successful.

Take a look at these stories of well-known people who struggled before achieving success:



Lewis Hamilton failed in his first attempt to win the F1 world championship in 2007. Going off track in the pit lane, considered a silly mistake, cost him the points that would have won him the championship.

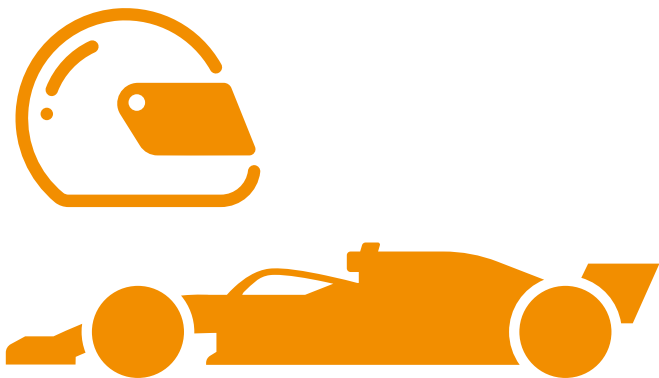
In 2008 he was set to lose the championship again, as he needed to finish in fifth place to get enough points. He kept going and overtook Timo Glock to get fifth place and won the championship.

Hamilton has now won multiple championships and is widely considered one of the most successful people in the history of his sport.

Alexandra Burke auditioned for the X Factor in 2005, but did not make the cut for the live finals. She returned in 2008 where she won the competition and went on to sell millions of records.

James Arthur won the competition in 2012, despite the setback of almost being eliminated in Week 7.

Many people who did not win their series of the show took it in their stride and went on to have successful pop music careers, including **Olly Murs, JLS** and **One Direction**.



The path to success



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Talk about

Talk about how you would have felt in these situations. Would you have felt frustrated by the difficulties and setbacks? Would you have been tempted to give up? How do you think they convinced themselves to carry on trying?

What other stories of people overcoming setbacks do you know about? Keep an eye out for examples from people who inspire you – they can be famous people or people you know in your own life. Where have they struggled before achieving success?

Apply to real life

Use the grid on the next page to think about things you or members of your family have achieved. What setbacks did you face along the way? How did you overcome them?

What are your own goals for the future? Think about what you want to achieve at school as well as once you leave school.

Do you think you'll make any mistakes on your way to achieving your goals? What difficulties might you face – and how would you like to respond to them?



The path to success



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What goals have you or your family members achieved?

What setbacks did you face?

How did you overcome these setbacks?

My goals for the future

What might make this difficult to achieve?

What would be the best way to respond to this difficulty?

In school:

When I leave school:

Family comments:

Child comments:

