

# Number Confidence Week

7 - 11 November 2022

## Activities for Children Ages 4-16



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## For parents & carers

However you might feel about maths, you can make a huge difference to your children's numeracy learning.

All the evidence shows that talking about everyday maths helps develop children's maths confidence. Here are some questions that you can ask each other when tackling the activities:

- What do we need to do?
- What information do we have? What do we need to find out?
- Would any equipment help?
- What do you notice when...?
- Shall we make a guess and see if it works?
- What could we do if we get stuck?
- If we were doing this again, is there anything we could do differently?

You can adapt these activities to suit your family's interests and use whatever items you may have to hand, at home or out and about.

You might want to take photos, draw pictures, write calculations or create diagrams - it's up to you!

Do use the comment boxes to reflect your discussions and thoughts as you complete each activity together.



One of the best ways you can support your children's learning is to make sure you are confident with your numbers. Why not click here to try the [National Numeracy Challenge](#). \*

# Ages

4-7

## Snakes & Ladders

### 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

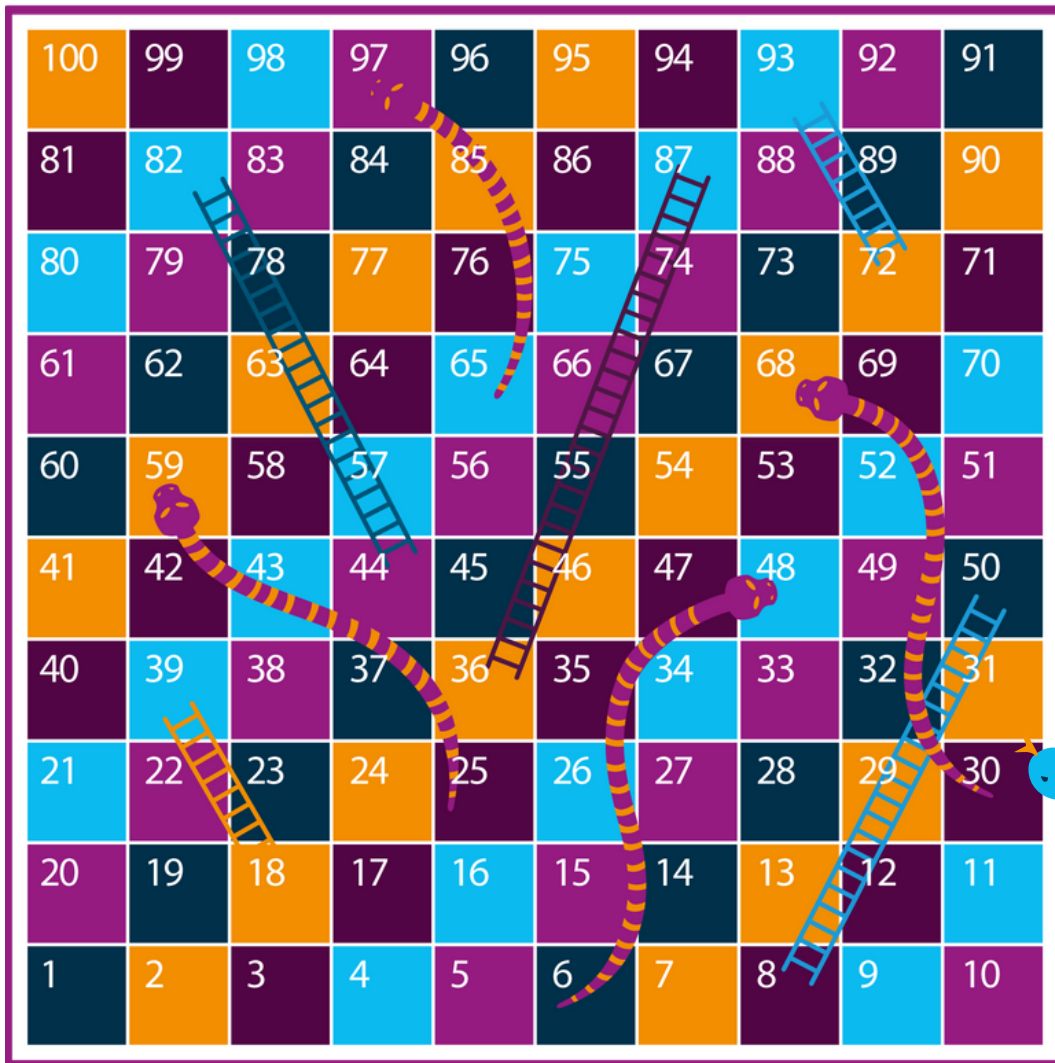
Sometimes learning new things is a bit like playing Snakes and Ladders. We know what we want to do but things can get in the way, like the snakes, and make it harder.

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?

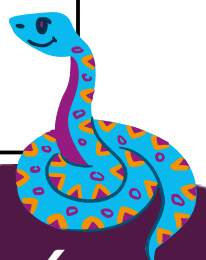
If you don't have a copy of the board game, you can use the example on the next page and make your own counters to play with.



## Snakes & Ladders



Notes, comments and observations



## Tooth Fairy

### Talk about

The tooth fairy leaves some money for Tanya's teeth.

In a year, Tanya lost 4 teeth and the fairy has left 50p, £1, £1, and £2 for different teeth.

Which coins could the fairy leave for a tooth? Would you rather have 6 x 20p or 1 x £1?

The tooth fairy says that to save a trip, Tanya could save one tooth until the next one comes out – so she could either have 80p now or £2 if the fairy comes for two later. What would you do?

**Use real coins or the pictures of coins on the extra sheet to talk about it.**



## Tooth Fairy

### Apply to real life

Talk about where else children might get money from – perhaps as a birthday present. Talk about how some children earn pocket money by doing helpful jobs for their family. You could compare this to grown-ups earning money from a job.

Talk about what you do with money. What would you like to spend some money on now? What would you like to save up for? Is there a charity you would like to give some money to? Perhaps to help some other people or animals.

You could use 3 glass jars – one for spending, one for saving, and one for sharing – and share the money between them. Talk about what is going in which jar and why.

### Use glass jars so it is easy to see the money grow!



Spending



Saving



Sharing

### Notes, comments and observations



#### Curriculum Link

- Recognise and know the value of different denominations of coins and notes
- Use symbols for £ and p
- Combine amounts to make a particular value
- Key vocabulary – pence, pounds, coins, notes, share, total, spend, save, share



## Tooth Fairy



# Ages

7-10



**Timi Merriman-Johnson**

National Numeracy Ambassador

**MR MONEYJAR**

## Mr. MoneyJar's Savings Goal

Saving for something big can feel hard to achieve. But if we save smaller amounts over time it can be more manageable.

**Think of something you would really like to buy but don't have enough money for yet.**

Record what you want to buy in the box below. You can draw a picture, describe it, or even use stickers - get creative!

Make a note of how much it costs - **This is your savings goal.**

**My savings goal is: £**

**Imagine you were saving for this over a year. How much would you save each month?**  
Don't forget to make sure that the savings total matches your savings goal.

Month 1.

£

Month 2.

£

Month 3.

£

Month 4.

£

Month 5.

£

Month 6.

£

Month 7.

£

Month 8.

£

Month 9.

£

Month 10.

£

Month 11.

£

Month 12.

£

**My savings total is: £**

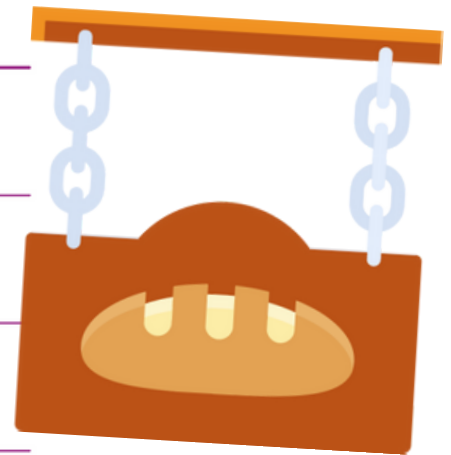
## Shopping for a picnic

### Talk about

Prital and Mita are planning a picnic. These are the things they want to take but they only have £10.00 to spend. What choices do they have to make?

Are the offers all good? Do they need that much?

| Food             | Price                               | Special offers  |
|------------------|-------------------------------------|---|
| Bread rolls      | Pack of 4 for £2.00<br>or 60p each  |   |
| Samosas          | 4 for £1.60                         | Large pack:<br>10 for £3.50                               |
| Cheese           | 500g for £3.00<br>or 250g for £2.00 |   |
| Apples           | 20p each                            | Pack of 5 for £1.50<br>Buy one pack,<br>get one pack free |
| Doughnuts        | 19p each                            | Large pack:<br>12 for £2.40                               |
| Orange juice     | Bottle 600ml<br>for £4.80           | Pack of 5 x 100ml<br>cartons for £2.50                    |
| Grapes           | 500g for £1.80                      | Buy one pack,<br>get one pack half price                  |
| Bar of chocolate | 200g for £1.70                      | Buy two for £3.50   |
| Water            | free                                |   |



## Shopping for a picnic

### Apply to real life

Plan food for your family for a day out – look in a shop or online and work out the cost. Which items do you need (to eat sensibly) or want (treats such as cake)?

Are there any items on special offer?

### Tips for grown-ups

Make sure that the choices offered to your child are foods that they will eat, so that the discussions are about money more than food!

Be positive about the maths as a way of saving money and using money wisely.



Notes, comments and observations



### Curriculum Link

- Recognise symbols £ and p
- Combine amounts to make a value
- Add/subtract amounts of money, using £ and p in practical contexts
- Solve simple problems involving fractions and decimals
- Key vocabulary – price, cost, offers, spend, save

## So you think numbers are not fun?!

**Numbers are all around us, and they help us all to do the things we enjoy!**

When you think about it, there are lots of ways that we use numbers when doing our favourite hobbies and sports.

Have a look at the hobbies below and think about how you would use numbers when doing them.

We've done one example for you to give you some clues – try to think of as many answers as possible.

### Example ↴

#### Football



- Using the league table to work out how many points a team might need to win the league
- Understanding distances on the pitch
- Recognising shapes on the pitch, such as the centre circle
- Understanding time, using the 90-minute game-time
- Probability in a cup draw
- Looking at statistics – e.g. possession percentages

**Can you think of any others? Add them here:**

## So you think numbers are not fun?!

### Baking or Cooking



Uses maths:

### Painting



Uses maths:

### Board Games



Uses maths:

## So you think numbers are not fun?!

### Music



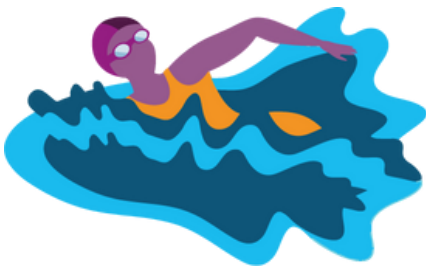
Uses maths:

### Rugby



Uses maths:

### Swimming

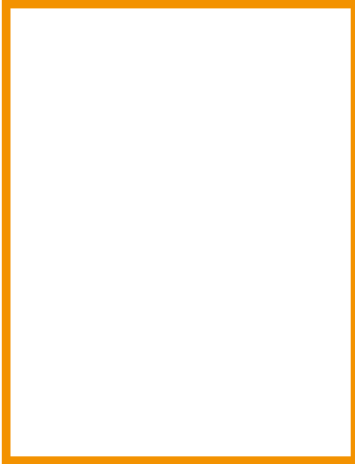


Uses maths:



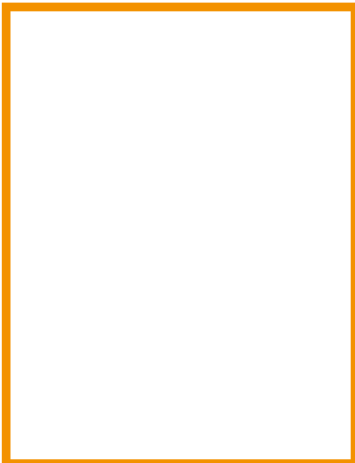
## So you think numbers are not fun?!

### Your favourite hobby



**Draw your favourite hobby! What is it? How does it use maths?**

### A family member or friend's favourite hobby



**Draw your family member's favourite hobby! What is it? How does it use maths?**

## So you think numbers are not fun?!

### Example answers

**These pages are for adults helping children with this activity**

Below we have provided some possible answers, but this is not a full list as there are many possible uses of maths in each activity. In general, any reasonable response should be encouraged.

### To help your child, use the following to give pointers:

- How is time used in the hobby?
- Is money needed – to buy things or make decisions?
- Is data useful in any of them – such as information using numbers, league tables, graphs or charts?
- Would you need to use measurements – such as weights, heights or lengths?
- Where can you see shapes?
- Are there any calculations needed? Is it useful to add things together or divide things up? Is a percentage needed anywhere?

### Possible answers

#### Baking or cooking

- Using complex timings to ensure everything is ready at the right time
- Weighing and measuring ingredients
- Understanding recipes
- Multiplying ingredients to bake products for the right number of people

#### Painting

- Mixing paint colours with the right ratios
- Ordering the right size canvasses and/or frames
- Understanding proportion to keep paintings lifelike
- Estimating the amount of paint needed to make sure there is enough of each colour

#### Board games

- Keeping score in Scrabble
- Using money in Monopoly – knowing when to buy a property and if you can afford it
- Understanding probabilities – what are the chances you would roll a double?
- Using coordinates in Battleships

## So you think numbers are not fun?!

### Example answers

These pages are for adults helping children with this activity

### Possible answers

#### Music

- Counting beats and keeping time
- Understanding fractions used to indicate lengths of notes
- Planning and scheduling rehearsals
- Planning how many songs can be played at a show

#### Rugby

- Keeping track of the score
- Recognising players by their shirt numbers
- Using angles to kick for goal
- Checking out where your club are in the league

#### Swimming

- Using time to measure how fast you can go
- Using distance to understand lengths and widths to achieve your badges
- Estimating to set your targets
- Making sure that you get to the gala on time with enough time to get changed.
- When do you have to leave the house?
- How long do you allow to prepare for the race?

### For Adults

One of the best ways you can support your children's learning is to make sure you are confident with your numbers. Why not click here to try the [National Numeracy Challenge](#). ✨



**Ages**

**10-13**

## Maths for cool jobs

**Lots of people think that maths will be used just for school, but actually numbers can help us all the way through our lives – especially for getting some exciting jobs.**

Think about the people below and how they use maths in their jobs.

Try to come up with as many ways as possible that maths helps them in their fun jobs. You might be surprised how exciting numbers can be!

We've given you some examples to help you out.

### Bobby Seagull



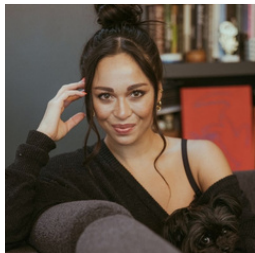
Bobby is a maths teacher and a TV presenter.

In his spare time he is a huge football fan and loves following West Ham United.

#### Uses maths for:

- Keeping his busy schedule under control
- Making sure his radio shows run for the right amount of time – estimating lengths of features
- Looking after his income and making sure he is paid correctly
- Looking at the league table when following West Ham
- Booking the best value tickets for football games
- Talking to his friends about the game statistics – for example he tells his friend that West Ham were on top in the game because they have had 62% of possession

### Katya Jones



Katya is a world champion dancer and environmental activist.

As a dancer she appears on Strictly Come Dancing, where she puts together dance routines and training

programmes for her celebrity dance partners, making sure they are fit and healthy as well as great dancers. She is interested in sustainable living and is often very busy with lots of commitments like travelling, events, media appearances and photo shoots.

#### Uses maths for:

- To measure progress towards fitness goals
- Planning lots of journeys so she can keep to all her commitments
- Managing training schedules and time keeping for her busy life
- Understanding nutrition and a balanced diet
- Measuring training and improving fitness
- Counting how many points she scores in a competition
- Understanding the impact of her lifestyle choices on the environment

## Maths for cool jobs

**Chloe the cabin  
crew member**



Uses maths for:

**Nathan the nurse**



Uses maths for:

**Harry the  
hairdresser**



Uses maths for:

## Maths for cool jobs

**Friedrich the  
fashion designer**



Uses maths for:

**Vera the video  
game designer**



Uses maths for:

**Sriti the sports  
journalist**



Uses maths for:

## Maths for cool jobs

**Mo the movie producer**



**Uses maths:**

**My dream job**

**Draw your dream job! What is it? How would you use maths?**

**A family member or friend's job**

**Draw a family member's job! What is it? How do they use maths?"**



## Maths for cool jobs

### Example answers

These pages are for adults helping children with this activity

We have provided some possible answers, but this is not a full list as there are so many possible uses of maths. In general, any reasonable response should be encouraged.

**To help your child, use the following to give pointers:**

- How is time used in the job?
- Is money needed – to buy stock or materials?
- Is data useful in any of them – like information using numbers, league tables, graphs or charts?
- Would you need to take measurements such as weights, heights or lengths?
- Where can you see shapes?
- Are there any calculations needed? Is it useful to add things together or divide things up? Is a percentage needed anywhere?

### Possible answers

#### **Chloe the cabin crew member**

- Knowing about time zone differences
- Handling money to sell refreshments
- Converting currencies
- Counting supplies/stock for in-flight meals

#### **Nathan the nurse**

- Working out prescriptions and drug calculations
- Understanding patient data
- Taking patient readings such as blood pressure
- Understanding the probability of treatments having side effects

#### **Harry the hairdresser**

- Understanding shape
- Using measurements – e.g. if the customer would like two inches trimmed
- Mixing colours and dyes using the correct ratio
- Making appointments and scheduling enough time for each customer

## Maths for cool jobs

### Example answers

These pages are for adults helping children with this activity

### Possible answers

#### **Friedrich the fashion designer**

- Measuring materials to make sure the garment fits properly
- Using shapes in designs
- Using scales to increase and decrease sizes
- Working out how much money he can make and how much he needs to spend on materials

#### **Vera the video game designer**

- Using angles, shapes and geometry in gameplay design
- Using numbers and data for coding
- Scaling and proportion to make realistic settings and characters
- Using probability to assess chances of a level being completed

#### **Sriti the sports journalist**

- Understanding statistics – for example when she writes that a player has scored 50% more goals than anyone else
- Managing her time to get all her articles written
- Filing expenses for when she has been to sports games
- Estimating if what she wants to say will fit in her one-minute TV slot

#### **Mo the movie producer**

- Keeping the movie to budget
- Negotiating contracts with big stars
- Managing the filming schedule
- Dealing with project timelines – for example, how long will scripting take?

### For Adults

One of the best ways you can support your children's learning is to make sure you are confident with your numbers. Why not click here to try the [National Numeracy Challenge](#). \*

## Mobile Phones

### Talk about

A lot of people pay a regular phone bill. Some households have a landline phone and many people have a mobile phone. But how are they paid for?

|                                       |   |
|---------------------------------------|---|
| <b>Landline</b>                       | The bill usually includes the cost of the line rental and the cost of phone calls made.   |
| <b>Mobile phone - contract</b>        | The customer agrees to pay a monthly bill for a set time, e.g. a year. Signing up to a contract will give the buyer a set amount of calling minutes, text messages and data per month. If you go over these limits, there is usually an extra charge. |
| <b>Mobile phone - 'pay as you go'</b> | With this plan, the customer only pays for the units used (minutes, text and data). The unit costs are often higher than with a contract but there are no fixed monthly fees.   |



### Imagine

Rudy is looking for a new phone for himself and one for his granny. He estimates that he will use 500 minutes of calls and 2300 texts but not very much data. His granny only uses the phone to make calls but she likes to have long chats!

Look at the options on the next page. Which of these would be the best options for each of them? Or would another type of phone deal be better for Granny?



## Mobile Phones

|                        | Good value phones | Sparkle phones | Fantastic phones | Top class phones | Out of this world phones |
|------------------------|-------------------|----------------|------------------|------------------|--------------------------|
| <b>Minutes</b>         | 400               | 600            | 800              | 900              | 1000                     |
| <b>Texts</b>           | 2500              | 1500           | 2000             | 3000             | Unlimited                |
| <b>Data</b>            | 100MB             | 200MB          | 1GB              | 500MB            | 2GB                      |
| <b>Price per month</b> | <b>£12.80</b>     | <b>£15.50</b>  | <b>£18.00</b>    | <b>£19.00</b>    | <b>£20.75</b>            |

Rudy's parents say he could reduce the number of his calls and have the cheapest phone. What do you think?

### Apply to real life

Think about any phones there are in your household. What is included in the cost for each and how are they paid? Who contributes to paying the phone costs?

Does everyone have the best value for money?  
How could you save money?



### Notes, comments and observations



#### Curriculum Link

- Use all 4 operations to solve problems involving money
- Use the skills of rounding and estimating up to 3 decimal places
- Key vocabulary – pence, pound, price, cost, spend, pay, budget, expenses, total, amount, cheapest, value for money

# Ages

# 13+



**Timi Merriman-Johnson**

National Numeracy Ambassador

**MR MONEYJAR**

## Mr. MoneyJar's Budgeting Challenge

Imagine you have £20 to spend on everything you need today. Think about all the things you need or want today that cost money. Divide them into the lists below and make sure they add up to £20 altogether. Make sure you include all your essentials like food and travel.

**'Needs' - the things we must have to live.**

| Needs           |   |
|-----------------|---|
| _____           | £ |
| _____           | £ |
| _____           | £ |
| _____           | £ |
| _____           | £ |
| _____           | £ |
| <b>Total: £</b> |   |

**'Wants' - the things we might like to have but we can live without.**

| Wants           |   |
|-----------------|---|
| _____           | £ |
| _____           | £ |
| <b>Total: £</b> |   |

**'Savings' - the amount of money we don't spend right away but keep for later.**

| Savings         |   |
|-----------------|---|
| _____           | £ |
| <b>Total: £</b> |   |

**If you add your savings to tomorrow's £20 budget, how much will you have to spend tomorrow? Does this change what you might buy tomorrow?**