

Inter-ELB Primary Mathematics Resource



Let's Count on Numeracy
The Benefits Add Up
At Home with Maths

Northern Ireland Education & Library Boards



Lets Count on Numeracy – the Benefits Add Up!

At Home with Maths

Introduction

The Northern Ireland Steering Group for Numeracy firmly believes that, as parents, you are significant partners in the education of your children.

This booklet seeks to provide:

- an important link between home and school
- ways of using maths in everyday activities
- ways of helping your child learn maths in an enjoyable way

We use maths everyday, when we are:

Planning what to watch on tv

Measuring

Cooking

Shopping

Telling the time

Maths is all around us... This is what we refer to as numeracy



Important Things to Think About

Be positive. Celebrate the maths your child can do.

- Maths is not always about being right or wrong! Can your child explain their thinking when working things out. Don't panic if your child does their maths a different way
- you don't have to be great at maths to help your child. You don't have to know all the answers either!
- as your child will have worked hard at school, remember to stop when he/she begins to lose interest
- try to work with your child when neither of you are tired or stressed, otherwise you may do more harm than good! You don't need much time...just a few minutes will do
- ask your child what they learned in school today
- select activities that appeal to either of you. Try starting with a game or one of the activities from this booklet
- if your way of working out a sum is different from your child's, allow your child to explain the method the teacher has taught. If in any doubt, talk to your child's teacher so that your child does not become confused
- encourage your child to 'have a go'. Resist the temptation to tell your child the answer as it is better to coax a response.



Shopping

Schools use shopping as a way of exploring different aspects of maths such as sorting, measuring and how to manage money

Encourage your child to come shopping with you or take an active role in decision making when internet shopping

Before you go out you might:

- talk about where you keep money safe e.g. purse or wallet
- discuss how you will pay for your shopping e.g. using cash, debit/credit card
- write a shopping list
- talk about how many bags you may need to pack the shopping?
- plan the order of the shops you are going to visit - what needs to be bought first?
- estimate the distance to/between the various places along the route
- estimate the time it is going to take to get the shopping done.

Activity

Talk about the route to the supermarket or directions for finding the aisle.

In the shop you might:

- find the item you are looking for and talk about where it was found e.g. is it “next to”, “beside”, “above”, or “below” another item. Can you reach it? What is the aisle number?
- talk about the best way to buy a number of similar items, for example, yoghurts/crisps. Is it better to buy a pack of six or six individual items? Compare the cost per item on the shelf label
- look at the price of an item. Discuss if you have enough money to pay for it and if it is good value
- take time to discuss special offers re: price and weight, for example, 3 for the price of 2, 10% extra, 1/2 price, 1/3 off
- count loose items of fruit and put in a bag



- if appropriate, look at the sell-by date of the product and talk about the need for a sell-by date
- check off the items on your shopping list
- talk about the total number or cost of items purchased
- encourage your child to work out the change in his/her head if paying by cash. Check any change.

Puzzle

Which is better value for your family:
a 6-pack of water costing £2.29 or 6 individual bottles costing 45p each?

Back at home you might:

- ask your child which bag of shopping is the heaviest? Which items make it the heaviest? Which is the lightest?
- use the bathroom scales to weigh a bag of shopping
- encourage your child to unpack and check the items purchased against the receipt
- sort the items that go into the fridge, freezer, different cupboards or rooms
- look at the size and shape of packaging and talk about how to arrange it in the cupboard/fridge/freezer
- read the weight on a variety of packages. Find items that are greater or less than a kilogram (bag of sugar/flour)
- look at the nutritional information on food packaging, if your child is older.

Activity

A bar of chocolate costs 45p. Using coins, how many different ways could you give the shopkeeper the exact amount?



Money

Your child should be encouraged to use, save and to spend money

You can help your child:-

- recognise and name coins
- sort coins, colour, size, sterling, euro, etc.
- count in:
 - o ones (1p coins, £1 coins),
 - o twos(2p and £2 coins),
 - o fives(5p coins and £5 notes),
 - o tens (10p coins and £10 notes),
 - o twenties (20p coins and £20 notes)
 - o fifties(50p coins)
- count the amount of money in the purse
- tell you what coins they need to pay for an item
- play shopping activities where children need to give the correct coins to receive the goods or the change required if they are the shop keeper
- be aware of how many of each coin makes 10p, 20p, 50p, £1
- save on a regular basis e.g. a money box or savings account
- budget their pocket money for a period of time.

Puzzles

I have 4 coins in my hand worth 6p. What are they?

I bought a magazine that cost 75p and I gave the shopkeeper a £1 coin.
What were the 3 coins the shopkeeper gave me for my change?
Could he have given me the correct change using only 2 coins?



Maths in the Kitchen

These examples will help your child to understand shape, weight, time, volume (the amount of space an object takes up) or capacity (the amount a container can hold)

In the kitchen you might:

- use foods such as fruit, pizza, cake, bread and chocolate to discuss:
 - **shapes** such as squares, triangles or rectangles
 - **fractions** such as halves, quarters and thirds
- allow your child to weigh ingredients when following a recipe or instructions on a packet
- look for numbers: on the microwave, oven, clock, calendar, kettle, scales
- talk about the patterns on the tiles, floor, curtains, wallpaper. Look for shapes and repeated patterns
- fill containers and help your child talk about whether they are empty or full. Order containers according to size
- talk about the capacity and shapes of different containers
- look at how much milk is in the fridge. Is there enough for breakfast tomorrow morning?
- calculate the cost of the contents in a lunch box.

Puzzles

What different seating arrangements could a family of 4 have if their table has space for 6 people?

Esther's Easy Shortbread – Give it a go!

50g Sugar
100g Soft Margarine
150g Flour

Cream margarine and sugar. Gradually stir in flour and mix until mixture comes away from the bowl. Add more flour, if necessary. Roll out to 1 cm thick (the same width as your small finger!) and cut into different shapes. Bake for 10-15 minutes (Oven: 150°). Leave to cool and enjoy with a mug of tea!



Maths Out and About

In the garden you might:

- talk about shapes that you see on the roof of your house, windows, doors, pathways, oil tank, shed
- look for patterns in the path, fence, wall, windows, flowers
- compare the tallest/smallest flowers
- make pictures or patterns with leaves. Talk about the different types of leaves and compare the size of the leaves
- look at the size of the garden: estimate its size – length/width
- talk about directions: North, South, East, West.

Activity

Plant some seeds (apple; cress; sunflower). How long does it take them to grow? What height do they reach?

In the street or park you might:

- look for different shapes, for example, shapes with curved sides, bars on gates, windows with straight sides/curved sides/arched sides, shapes, shapes of houses, pillar boxes, cars
- talk about the distance between two places and how long it might take to walk between them
- talk about the purpose of banks and post offices
- look at how houses are numbered in your street. Are all of the houses with odd numbers on the same side?

Puzzle

Look at this car registration:

MAZ 2882

Rearrange the numbers to make:

- the smallest number
- the largest number
- as many even numbers as you can.



Playing Maths Games

- Games are fun! They can help foster a positive and enjoyable attitude about mathematics
- games can help children practise their math's skills such as counting or completing simple money transactions e.g. Monopoly
- board games can foster the ability to focus and may help lengthen your child's attention span and memory skills
- games like Snakes and Ladders demonstrate that just as in life your luck can change in an instant- for the better or for the worse
- playing board games help children to think logically whilst teaching them about taking turns and following rules
- Research indicates that playing games once or twice a week can help your child's math's skills.

It's good to:

- take time to help your child "count on" when playing games like "Snakes and Ladders"
- play a game for about 10 minutes with young children. For older children 15 - 20 minutes may be sufficient before they lose interest
- use the same cards and play snap
- consider if it is wise to cheat or let your child win all the time. When will they learn, that just as in life, you don't always win?



Doing Maths in Your Head

Every day we all do lots of mental calculations.

Help your child to work out answers in their head by asking questions, such as:

**Sal wants to buy a video game. It costs £47. She only has £28.
How much more does she need?**

A coat costs £100. In a sale it is marked down 20% how much does it now cost?

A clock shows 9.00. The clock is 15 minutes fast. What is the right time?
"Hmm..It must be 15 mins earlier, 8.55, 8.50...8.45"

One large pizza costs £8.99 how much would three cost?
"Er...I could round up to £9.00, multiply by 3 and subtract 3p"

**It is 3 o'clock now it will take 1 hour and 25 minutes to get to granny's house.
What time will it be when we get there?**

There are 14 trees in a garden 9 trees are cut down, how many are left?

How could you add 28p and 23p?
"I could add 20 and 20 giving 40 then add 8 and 3 giving 11 then add 40 and 11 giving 51"

A bottle of water holds 500ml. How many litres would four bottles hold?

Remember to ask your child to explain how he/she worked out the answer



Time

Time is about more than just telling the time on a clock! It is a very difficult area for children to understand, but there are plenty of ways that you can help at home.

Events of the day

- Discuss the events of the day: first we get washed, then we get dressed and then we eat our breakfast...go to school....etc
- Talk about what happens in morning, afternoon and evening
- In the morning, ask what will we do first e.g. Brush our teeth or go to school?
- When getting dressed, ask which clothes will we put on first e.g. socks or tee-shirt
- Talk about “after lunch” or “after dinner” to provide solid milestones for your child. (The more abstract notion like yesterday, tomorrow will be understood by an older child)

Days of the week

- Talk about what day it is and what you are going to do
- Which days they go to school or stay at home
- Discuss what day it is and how many days are in a week. Count down the number of days or weeks until a special event
- Use stickers or simple weather symbols to track the weather and talk about this at the end of each week/month.

Telling the time

- Look at the clock at specific times e.g. Time for school/bed
- Together look up the time of a television programme that they want to watch (how long until it begins, how long does it last?).

Passage of time

- To understand that some activities take longer than others begin to make comparisons and see which takes longer e.g. Set the table or tidy your room.
- Carry out simple activities to compare how long it takes e.g. Who can stand on one foot longer?



- Set time limits – Play for 5 more minutes and then you must come in for lunch (Initially your child will not understand minutes but gradually they will understand the idea of time passing).
- Estimate how long it takes to drive/walk to school. Check this with the correct time. This will help to develop a sense for the passage of time. They will learn to think for themselves by estimating and checking for accuracy.
- Use a timer/count slowly to play “beat the clock/count,” if they get ready for bed in 2 minutes/slow count to 30 they will get an extra bedtime story.
- Plant seeds and see how long it takes for them to grow e.g. Cress seeds (short time), crocus bulbs (longer time).

Time Teaser

Robert got up at 7.30 in the morning.
He left for school 45 minutes later.
The bus journey took 30 minutes.
What time did he arrive at school?

Useful Websites

http://www.nicurriculum.org.uk/microsite/financial_capability/index.asp

<http://www.moneyville.co.uk>

