

## Everyday Maths activities to support your child develop mathematical fluency and flexibility

The aim of this booklet is to provide parents at Southmead Primary with some guidance on how they can help their child at home with maths using some everyday activities.

It is most important that you TALK and LISTEN to your child about their learning in maths. It will help your child if they have to explain their process to you. Be positive about maths, even if you don't feel confident about it yourself. A lot of maths can be done in everyday situations (the shop, cooking etc.) and will not need pencil and paper methods. Most importantly, play games and have fun with maths. Remember regular practice for short periods of time is the best way.

### Counting

- Make collections of objects –shells, stones, buttons, shoes, etc
- Cars on a journey e.g. How many red cars?
  - Animals in a field e.g. sheep, cows.
- Stairs up to bed, steps etc.
- Sports scores – averages.
- Pages in a story book.
- Look for numbers in the environment – buses, house numbers etc
- Make mistakes when counting. Can your child spot them? Correct them?

### Measuring

- Calculating distances in a journey e.g. How much further?
- Recording heights of family members on a wall – Who is the tallest? How much by? How much did you grow?
  - Measuring weights of ingredients when baking.
  - Playing with plastic jugs and containers in the bath?
  - Reading the scale on weighing machines.
- Weigh a child on the scales when they are holding family pet.  
Can they work out how much heavier they are?  
Can you calculate how much does the pet/object weighs?
  - Can you find two things heavier than your child? Two things lighter?

### Time

- Looking at the clock - identify the numbers telling the time using analogue and digital clocks.
- Calculating how long a journey will take looking at the train/bus/airline timetables.
- Using the TV guide to calculate the length of programmes. How long left?
  - Programming the microwave.
- Discussing events in the day e.g. teatime, bed time, bath time.
- Setting the alarm clock.

### Shopping

- Looking at prices.
  - Calculating change - which coins? Which combinations?
- Weighing fruit and vegetables in the supermarket.
  - Counting pocket money. How much more in 10 weeks?
- Reading labels on bottles, packets in order to discuss capacity, weight or even 3d shape.
- Estimating the final bill when shopping at the till.
- Adding up the bill at a restaurant.



- Working out a 10% tip at a restaurant.
- Calculating the cost of the family going to the cinema.

### **Fractions**

• Practise fractions by cutting pizzas, sandwiches or fruit. Ask questions such as: Is there a different way I could cut my sandwich into quarters? Eat one piece. How much is left? Etc.

- Your pizza costs £3.60. Cut it into 6 equal slices.

How much does each slice cost?

How much is half a slice?

How much do 2 slices cost?

How much does  $\frac{1}{2}$  of the whole pizza cost?

- What if you cut your pizza into 4 equal slices (quarters)? How much does one slice  $\frac{1}{4}$  costs now? How much does half cost now? Is it the same, more or less than above?

### **Simple maths games to play as a family**

- Cards- snap- counting and matching
- Dice Games (e.g. Yahtzee) ~ Probability
- Dominoes ~ Number Skills & Problem Solving
- Mastermind ~ Logic & Problem Solving
- Battleships ~ Grid References & Charts
- Card Games ~ all sorts of maths!
- Snakes & Ladders, Ludo ~ Counting & Number Skills
- Monopoly ~ Money



## Advice for Parents from Professor Jo Boaler

Jo Boaler is a leading Mathematics Professor at Stanford Graduate School of Education. She is the founder of Youcube a non-profit organisation that provides mathematics resources to parents and educators. She has written many books about maths and how pupils learn best.

Here are some steps to take to help your child enjoy and succeed in mathematics.

1	Encourage children to play maths puzzles and games. Award winning mathematician, Sarah Flannery reported that her maths achievement and enthusiasm came not from school but from the puzzles she was given to solve at home. Puzzles and games – anything with a dice really – will help kids enjoy maths, and develop 1 number sense, which is critically important.
2	Always be encouraging and never tell kids they are wrong when they are working on maths problems. Instead find the logic in their thinking – there is always some logic to what they say. For example if your child multiplies 3 by 4 and gets 7, say – Oh I see what you are thinking, you are using what you know about addition to add 3 and 4, when we multiply we have 4 groups of 3...
3	Never associate maths with speed. It is not important to work quickly, and we now know that forcing kids to work quickly on maths is the best way to start maths anxiety for children, especially girls. Don't use flashcards or other speed drills. Instead use visual activities such as <a href="https://bhi61nm2cr3mkgk1dtaov18-wpengine.netdna-ssl.com/wp-content/uploads/2015/03/FluencyWithoutFear-2015.pdf">https://bhi61nm2cr3mkgk1dtaov18-wpengine.netdna-ssl.com/wp-content/uploads/2015/03/FluencyWithoutFear-2015.pdf</a>
4	Never share with your children the idea that you were bad at maths at school or you dislike it – especially if you are a mother. Researchers found that as soon as mothers shared that idea with their daughters, their daughter's achievement went down.
5	Encourage number sense. What separates high and low achievers is number sense – having an idea of the size of numbers and being able to separate and combine numbers flexibly. For example, when working out $29 + 56$ , if you take one from the 56 and make it $30 + 55$ , it is much easier to work out. The flexibility to work with numbers in this way is what is called number sense and it is very important.
6	Perhaps most important of all – encourage a “growth mindset” let students know that they have unlimited maths potential and that being good at maths is all about working hard. When children have a growth mindset, they do well with challenges and do better in school overall. When children have a fixed mindset and they encounter difficult work, they often conclude that they are not “a math person”. One way in which parents encourage a fixed mindset is by telling their children they are “smart” when they do something well. That seems like a nice thing to do, but it sets children up for difficulties later, as when kids fail at something they will inevitably conclude that they aren't smart after all. Instead use growth praise such as “it is great that you have learned that”, “I really like your thinking about that”. When they tell you something is hard for them, or they have made a mistake, tell them: “That's wonderful, your brain is growing!”

