

Maths games to support children in Key Stage 1 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. We have put together a selection of fun games and activities which you can play at home with your child to support their understanding of maths. You may need to adapt these games to suit the ability of your child.



The most important thing that you can do is to 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. Most importantly, play some games and have fun with maths. We don't expect you to spend hours on these a little and often is best. Enjoy.

Counting keep fit!

Count in 1s, 2s, 5s or 10s etc with actions, for example do star jumps as you count in 2s then hops as you count in 5s. You could also have an action for when you reach a 'target number', for example, you could do star jumps counting in 2s then put your hands on your head when you get to 20.

Counting catch

You decide how to count e.g. in 2s, 5s, 10s, forwards/backwards, depending on your child's ability. Person one will say one number and person two says the next and so on. This simple game can be adapted to play with any number of people. You could make it harder by starting at different numbers and counting forwards and backwards.

Sorting

Using hoops or circles on a large piece of paper you and your child could sort toys or numbers. Let them think of ways to sort the items and then suggest some other ways e.g. big/small, brown/not brown, 4 legs or more/ less than 4 legs, is an animal/is not, is bigger than 10/smaller than 10, is odd/even etc.

Toy parade

- Your child could line up some of their toys and you could use order language with them such as first, second, third etc.
- You could then re-arrange them and use positional language such as 'which animal is in front of the brown teddy' or 'which toy is next to the digger?'. Once your child understands these concepts (in front, behind, above, below, next to, besides) you can then encourage them to use this language e.g. they might say "the cow is in front of the doll".
- You could also ask 'which animal is bigger/smaller than the doll?' then 'which animal is the biggest/smallest?' Again, once they understand these concepts encourage them to use the words in full sentences.

Know your 'number bonds'

You could use counters, dried pasta pieces or toys for this activity. Get 10 objects and work out how many ways you can split them into two groups e.g. $9+1$, $5+5$ etc. This will help your child learn their 'number bonds to 10'. Your child could also try and find number bonds to 20 or 100. Playing number bond snap is another fun way to help children learn their number bonds.

Guess my number

One person thinks of a number and gives clues to the other person about their number e.g. 'my number is even' or 'my number is in the 10 times table'. It may be helpful for your child to have a number line or hundred square in front of them to look at. Alternatively, the second person could ask questions to try and guess the mystery number e.g. 'does it have a 5 at the end?' or 'is it bigger than 20?'



One/two/ten more

You say a number then your child says what is 'one more' (or two or ten more). You can then take it in turns so your child gives you a number and you say what is one more. Your child may find it useful to have a number line or hundred square in front of them to help. Before you start you may like to demonstrate what 'one more' looks like by adding an object (e.g. piece of dried pasta) to a number of objects so they understand the concept. To add variety you may like to say a number in a silly voice and ask your child to say the answer back in the same silly voice.

Roll the dice

Roll two (or three) dice and ask your child to add the two (or three) numbers together as quickly as they can. You could also do this with subtraction and multiplication. Again, you can switch it around so they roll the dice for you – this is when you can model how you might do it e.g. counting the dots, counting on or using a number line.

Bigger or smaller than?

This game needs a pack of cards. Have all the cards facing downwards and only turn over the top card. Does your child think the next card will have a bigger or smaller number on it? Turn it over – were they correct? You could also ask them to say 'how much' bigger or smaller the number is compared to the previous one. You can take it in turns and get a point if you get it correct to make it more exciting!

Get to 10 or 100 (or any multiple of 10)

When your child starts to understand number bonds to 10 (e.g. $1 + 9$, $2 + 8$, $3 + 7$...) you could put two playing cards face down that total 10. They turn one over and have to work out what the other one is. They could have 10 counters/pens/grapes in front of them to help them. Then swap and they do one for you making sure the total comes to 10.

What's the card?

'Get to 10' (above) can also be played with any number as the total e.g. you might pick two cards and tell them the total is 7 and they have to work out all the different combinations of cards you might have. You then turn over one card and they have to work out what the other card is. Again, this can also be switched around so they work out the total for you.

Guess the shape

Hide a shape in a bag and describe it to the other person. The other person has to guess what it is. Another version is that the 'guesser' has to ask the 'hider' questions about the shape. It might be useful to have duplicates of all the shapes in front of the guesser to help them. A further version is that all the shapes are in the bag and your child has to feel them and guess what they are. 2D shapes can be made with thick card and many 3D shapes can be found around the home e.g. food packaging. Guess the coin Look at all the different coins. One person holds/hides a coin and gives the other person facts about it (e.g. it is silver, it is circular) until they guess what the coin is. Alternatively, one person could also say that they have 30p in their hand and the other person has to guess what coins they may have e.g. 10p, 10p and 10p or 20p, 5p and 5p etc.

Estimating and measuring length

Ask your child to guess how many e.g. hand spans the table is etc. Then ask them to measure it to see how close they were. You can also use footsteps, felt tip pens, pieces of pasta (the list is almost endless but ensure the things you are using are all the same length i.e. different sized pencils are not suitable). Children may also be able to use 'cm' and 'm' and could use a ruler or tape measure for measuring.



Colour code the shape

Randomly draw straight lines with a ruler on a sheet of plain paper (your child may be able to do this) then colour code the shapes e.g. colour all the squares blue, all the triangles yellow and all the hexagons red. This activity will help them identify irregular 2D shapes e.g. that any shape with 6 straight sides is a hexagon.

Partitioning the number

Once your child can partition i.e. understands that 13 is made from one 'ten' and three 'units' then you can play this game. One person says a number and the other person has to jump, stride and hop the correct number of times e.g. 324 is 3 jumps, 2 strides and 4 hops. (Jumps = 100s, strides = 10s and hops = 1s).

Post-it Challenge

Write a number on a post-it note and then stick it on the other persons' head without them seeing the number. They need to ask you questions to help them work out the number e.g. 'Is it odd?' or 'Does it start with a 5?'. Answers can only be 'yes' or 'no'. It may be helpful to your child to have a number line or a hundred square in front of them to look at.

Code breaker

You will need to write the alphabet out and give each letter a corresponding number. Then create calculations that when solved, the answer is linked with the corresponding letter and it makes a word e.g. $5 + 5 = 10$, $10 - 7 = 3$ and $6 + 1 = 7$ and if 10 corresponded with 'd', 3 with 'o' and 7 with 'g' then the answer would be 'dog'.

Dominoes Children

- add up the dots on each domino and sort into odds and evens.
- find all the dominoes which have a total of 5 dots etc.
- think of a way to arrange the dominoes and explain their method.

Flip the card

Have cards numbered 0 – 9 face down on the table. This is a 2 player game. Each player flips over 2 (or 3 etc) cards and adds them together. Whoever has the biggest number wins a point/counter. You could also have a start number and whichever card (or two) you flip you need to take away from the start number. The possibilities are endless with this game!

Doubles snap

Play snap either with a pack of playing cards or number cards you have made yourself to make it harder for your child. Instead of saying 'snap' when two cards the same are put down each person has to try and say the double e.g. if two 3s are put down they have to say '6!'.

Lolly sticks

Challenge your child to find out how many ways they can arrange 5 lolly sticks to create a pattern? After they have made a pattern/shape they could record it. You could extend this by giving them more sticks.

Shape spotter

You could either look for specific 2D or 3D shapes e.g. triangles or cubes, or you could search for as many different shapes as you can find (this will help your child's shape vocabulary). You could search for shapes either inside or outside.

Square it!

You will need dotted gridded paper for this game. Take it in turns to make a line between two dots. If you draw a line that creates the final side of the square you initial it. The person with the most squares at the end is the winner. This game helps with strategic thinking as well as planning ahead.

Key questions

Even when your child has been successful at a learning activity it is useful to question them to aid their understanding. For example: • How did you find that out? • How can you prove it? • Can you work it out another way? • How could you use what you have found out to solve this....?



Key vocabulary

Below is the key maths vocabulary about number for Foundation stage and KS1.

It would help your child if you could use these words in everyday conversation so they can experience these words in context.

Number

none , how many...? count in ones, twos etc more, less odd, even multiple of

Place value and ordering

units, ones, tens, hundreds digit 'teens' number place, place value equal to one more, ten more one less, ten less compare , order , size first, second, third... before, after

Estimating

guess how many, estimate, nearly, close to, just over, just under, exact, exactly too many, too few, enough, not enough round to the nearest ten

Addition and subtraction

+, add, addition, more, plus make, sum, total, altogether -, subtract, take away, minus difference between half, halve, double =, equals, sign, is the same as

Multiplication and division

lots of, groups of , x, times, multiply, multiple of once, twice, three times, repeated addition row, column double, halve share, share equally equal groups of \div , divide, divided by, divided into, left, left over

Money

coin, penny, pence, pound, (£) price, cost, buy, bought, sell, sold spend, spent, pay, change how much...? how many...?, total

Fractions

fraction one whole one half, two halves one quarter, two... three... four quarters

Organising and using data count, tally, graph, block graph, pictogram list, table, label, title

Length

measure, length, width, height, depth long, short, tall, wide, narrow, thick, thin longer, shorter, taller, higher... longest, shortest, tallest, highest... and so on metre (m), centimetre (cm) ruler, metre stick, tape

Mass

weigh, weighs, balances heavy/light, heavier/lighter, heaviest/lightest kilogram (kg), gram(g) balance, scales, weight

Capacity

full, empty, holds, contains litre (l), millilitre (ml)

Time

Monday, Tuesday... January, February... Spring, summer... day, week, fortnight, month, year, weekend before, after, next, quick, quicker, quickest, slow, slower, slowest etc hour, minute, second o'clock, half past, quarter to, quarter past clock, watch, hands digital/analogue how often? always, never, often,



Shape and space

flat, curved, straight, corner, face, side, edge, surface

3D shapes

cube, cuboid, pyramid sphere, cone, cylinder

2D shapes

circle, circular triangle, triangular square, rectangle, rectangular, pentagon, hexagon, octagon

Patterns and symmetry

size, bigger, smaller symmetrical line of symmetry mirror line, reflection pattern, repeating pattern

Position, direction and movement

over, under top, bottom, side in front, behind, next to, opposite direction, journey, route, left, right forwards, backwards, clockwise, anticlockwise whole turn, half turn, right angle, straight line

Solving problems

pattern, puzzle calculate, calculation right, correct, wrong what could we try next? how did you work it out?

