

Maths for Life

A Guide to your child's learning of basic maths skills through primary school





Skills for Life

Aims of the National Curriculum 2014

- To become fluent in the basics of mathematics, developing more complex skills over time. To develop the ability to recall and apply knowledge rapidly and accurately.
- To reason mathematically by following a line of enquiry, develop an argument, and justify or prove using mathematical language.
- To solve problems by applying their mathematics to a variety of problems including breaking down problems into a series of simpler steps and persevering in seeking solutions.

What makes a good mathematician?



Ability to understand and solve multistep problems which require breaking down the problem into smaller steps

Ability to use logical and strategy to solve problems (sometimes with more than 1 answer)

Fluency of calculation (mental and written methods)

Ability to explain, justify and prove (reasoning)

Rapid recall call of number bonds

Rapid recall of multiplication and division facts

Knowledge and use of mathematical vocabulary

An understanding of concepts through practical activities



Reception- Key Skills

- * In Reception we focus on learning our numbers to 20.
- * Through practical activities we learn to count, recognise and write numbers to 10 and then 20.
- * We use objects and number lines to recognise numbers which are 1 more than and 1 less than.
- * Through games and activities we learn to share objects equally.
- * During our work on measures we learn to tell the time to the hour, learn the basic shapes and learn the language of measurement such as longer, shorter, taller, heavier and lighter.

How can you help at home?

- * Count anything and everything! (Pasta, peas, stairs, toys, people, shoes)
- * Reading books which involve counting
- * Recognise numbers in the real world. For example: spot numbers on car number plates, when shopping, dates on calendars games.
- * Play games which include small numbers- snap, memory game, uno, orchard games
- * Talk about time together (keep it simple) You go to school at 9:00, Lunch is a 12:00. Spot the time on the clock. Use language like later, before, after, morning, evening in your every day conversations.
- * Compare the sizes of items, clothing, shoes. Use language such as larger, smaller.
- * Encourage children to measure using their hands. Can they find an object which is 10 hands long? Are there any longer? Shorter?
- * Compare the weight of objects. Which is heavier the bag of raisins or the bag of flour? Is your school bag heavy or light? How could we make it heavier? How could we make it lighter?



Year 1 – Key Skills

- * In Year 1 we learn to recognise numbers to 100. We use hundred squares to help us and work with practical equipment all the time.
- * We count in 1s and 10s from any number and begin to count in 2s 5s and 10s
- * It is very important that children form their numbers from 1-20 carefully at this stage and that if they are reversing, we work to correct this. (Otherwise it becomes a habit)
- * Learning our number bonds to 10 is really important (For example- knowing by heart that $3+4=7$) as it helps with number bonds to 20 and beyond.
- * We learn to tell the time to nearest hour and half hour.
- * By the end of Year 1, we need to be able to recognise all of our coins and use them to find small totals.
- * Through practical work, we explore what a $\frac{1}{2}$ and $\frac{1}{4}$ is link this understanding to halving and doubling.

How can you help at home?

- * Keep counting! Varying the numbers you count in starting from higher numbers such as 34. Regularly cross the 10s (this is the bit they find tricky). Remember to count backwards as well.
- * Count objects around you that are naturally in 2s, 5s or 10s. This can be coins, hands, shoes, socks. Also count those which are more random, sweets, raisins, people. Can they group them into 2s 5s or 10s to help count larger numbers?
- * Playing top trumps is a great way to practice reading numbers to 100. Check the pack (Some go up to 1000s!). Snakes and ladders is a fantastic game for recognising numbers, counting on and back.
- * You can use a coat hanger and pegs to add numbers to 10. Shut the box is a great game for this, as is any game which requires adding totals on 2 dice.
- * Telling the time at home using an analogue clock is helpful. The more often they practice, the more confident they become. There is also a game called What's the time Mr Wolf which is great for all levels of time.
- * Play shops. Use real items from your cupboards. Ask your child to make price labels (keep them simple). Use play money or even better real money to pay for individual items or sets of items (small numbers). Take turns to buy and sell and shop keepers don't forget to check the money!
- * Talk about halves and quarters when cutting up food, sandwiches, toast, cake, sharing sweets etc.



Year 2 –Key skills

- * In Year 2 we continue working with numbers to 100.
- * It is really important we know our number bonds to 20 as they help us to add multiples of 10 and larger numbers.
- * We begin to learn our times tables starting with 2x, 5x and 10x. We also need to know our division facts for these tables.
- * By the end of the year, we need to be able to tell time to the nearest 5 minutes (to and past the hour) but we begin with quarter to and past.
- * When dealing with money, we need to be able to add totals and begin to give change (small amounts). We explore different ways of creating different amounts e.g. How many ways can you make 55p?
- * By the end of the year we have to be able to find $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{3}$ and $\frac{3}{4}$ of shapes and small numbers.

How can you help in Year 2?

- * Continue to count and recognise numbers everywhere.
- * When playing number games encourage children to calculate difference. For example, when playing top trumps ask How much stronger is your character? How much did you beat me by? How many more do you need?
- * Encourage children to use the facts they know rather than going straight for their fingers. If you know $5 + 2$ is 7 then $15 + 2$ is 17. If you know that $10 + 8$ is 18 then $9 + 8$ is one less.
- * Work on 1 times table at a time. Write them down, encourage your child to spot patterns. Chant tables. Play tables games (see leaflet). Practice in and out of order. Remember to practice division facts as well.
- * Support your child with telling the time. Have an easy analogue clock in the house. Practice daily.
- * Continue to play shops. Add small totals and pay with the correct coins. Explore what happens when you do not have the correct money. Encourage children take pocket money to shops and count out the coins they need. Talk to them about the change they get. Children don't always understand why they get money back!
- * Practice sharing items at home. Share between 2 of you. What is half? Share between 4 of you? How many do we have each? Use language of quarters.



Year 3- Key skills

- * In Year 3 we work with numbers to 1000.
- * We need to be able to add on tens, ones and hundreds to any 3 digit number. Number facts are vital!
- * We continue to practice our 2x 5x and 10x table and also learn the 3x 4x and 8x tables. We also learn the division facts.
- * We spend a lot of time, telling the time to the nearest minute; relate analogue time to digital time.
- * We solve problems using days, months and years.
- * Through work on money, we learn about decimals £ and p and also learn to give change.
- * Fractions becomes quite important in KS2. In Year 3 we find fractions such as $\frac{2}{3}$ or $\frac{4}{5}$ of shapes and numbers. It is important that we really understand what the denominator and numerator mean.
- * We also add and subtract fractions for example :

$$\frac{1}{4} + \frac{2}{4}$$

How can you help?

- * Continue to count! Count in hundreds, tens and ones from any 3 digit number. Read money and count in £1s 10ps and 1ps.

- * Practice 3x 4x 8x tables including the division facts.

(ICT games)

- * Encourage your child to wear an analogue watch and practice telling the time at home daily.

- * Look at calendars and diaries.

- * Continue to play shops and take your child to the shop to spend pocket money using coins. Support them with giving change by counting up. (This reinforces the concept of difference)

- * Talk about fractions when cooking. Cutting the cake into fifths, cutting or sharing fruits and vegetables, sweets and chocolate bars.

- * Encourage equal sharing e.g. can you split the chocolate bar into thirds. How many pieces will we have each? Can you pour out a quarter of a cup of water or fill this $\frac{3}{4}$ full. How full is that bottle? How much do you need to fill it to the top?



Year 4 – Key Skills

- * In Year 4 we work with numbers to 10,000.
- * We use formal methods of calculation to work with numbers to 1000 but mental maths is still important.
- * By the end of Year 4 your child will need to know all of their times tables to 12 x 12 and their division facts. They will have a national times table test which is timed.
- * We should be able to tell the time on a analogue and digital clock and understand 12 hr and 24 time. We learn how to use timelines to calculate time differences and to solve problems with time.
- * By Year 4 we look more closely at decimals. Understanding the place value of money helps with this.
- * We need to solve problems involving money such as James buys a pack of biscuits for £1.30 and a newspaper for £1.23. He pays with a £5.00 note. How much change does he get?
- * We need to find equivalent fractions using practical resources.

How can you help

- * Practice times tables everyday. Remember they need to be by heart (not by counting) and to practice division as well.
- * Ask questions about time durations. Dinner will be at 5:00pm. How many minutes will that be? You have 10 minutes to tidy up – what time will you finish? (Wishful thinking)
- * Take your child shopping with you and discuss prices. Which is more expensive? Which is less expensive? By how much? How much would it cost for more than 1 item.
- * Continue to talk about fractions when you cook and measure.
- * Ensure that your child completes their homework each week and support them if they need it.



Year 5

- * In Year 5 we work with numbers up to 1 million.
- * We add, subtract, multiply and divide using formal methods.
- * Being able to multiply and divide by 10, 100 and 1000 is really important and use place value to do this.
- * We learn key facts such as square numbers and prime numbers by heart.
- * Children need to be able to read timetables and calendars. They need to be able to work out time differences and also calculate time problems such as how many minutes are there in 3 hours and 34 minutes.
- * Fractions are really important in Year 5. We add, subtract, convert, order, compare and multiply them!
- * Children relate fractions to decimals and percentages and use these to solve problems.

How can you help?

- * Continue to practice times tables. Much of the maths we do in Year 5 relies on knowing these facts.
- * Help your child to learn their square and prime numbers
- * Give your child experiences where they read timetables- travel on buses, trains. Calculate how long it will take for the bus to arrive, what happens if you miss a bus etc.
- * Spot deals when you are out shopping. 20% off etc. Is the item cheaper or more expensive? By How much?
- * Help your child to learn the fractions, decimals and percentage equivalents. $\frac{1}{4} = 0.25 = 25\%$
- * Help your child to explore fractions which are larger than 1 whole. If I need sandwiches for 4 people and they are all cut in half, how many halves will I have? I need 12 slices of cake. Each cake is cut into 6 pieces. How many cakes will I need?
- * Explore dividing which leads to remainders. If we have 13 sweets and I divide by 4 people. How many are left?



Year 6

- * In Year 6 children need to be working with numbers to 10 million.
- * It is all about combining the skills they have learnt to solve complex problems
- * They use all four operations to solve problems including those with fractions, decimals, percentages and those involving money and measure.
- * Children need to be secure with the equivalences between fractions, decimals and percentages and know them off by heart.
- * They need to be confident in their understanding of fractions. They will add, subtract, multiply and divide them. They will also solve problems find fractions and percentages of number and shape.
- * Children need to be secure with their times tables, square numbers, cubed numbers and prime numbers.

How can you help?

- * Support your child their homework and encourage them to do it on time. This is vital for them to practice key skills but also prepares them for maths at secondary school.
- * If your child doesn't understand a piece of work then encourage them to have a go and then ask for help at school the next day,
- * Continue to support them to learn key facts such as times tables, square numbers, cubed numbers and prime numbers.
- * Practice the relationships between fractions, decimals and percentage equivalences.
- * Practice all 4 written methods, so that they are accurate and fluent.