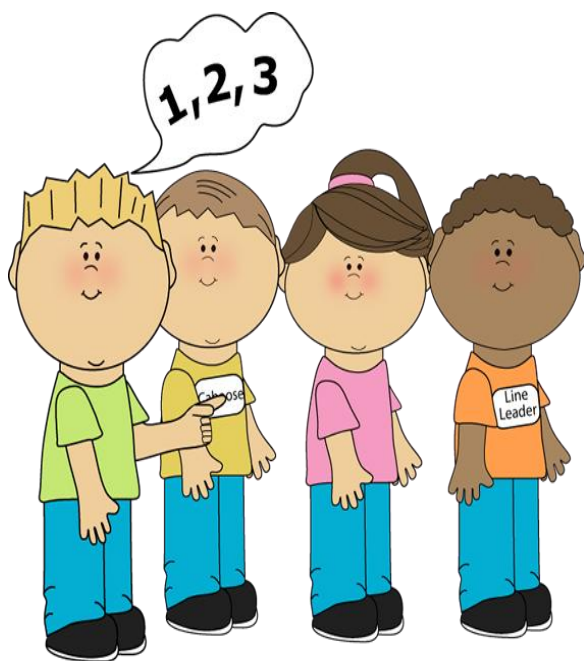




Maths: KS1

Parent Mini Guides

The Three Schools

Maths – End of Year 1 Expectations

New National Curriculum Objectives

Number and Place Value	count to and across 100 , forwards and backwards, beginning with 0 or 1, or from any given number
	count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens
	given a number, identify one more and one less
	use the language of: equal to, more than, less than (fewer), most, least
	identify and represent numbers using objects and pictorial representations including the number line
	read and write numbers from 1 to 20 in numerals and words.
Addition and Subtraction	represent and use number bonds and related subtraction facts within 20
	add and subtract one digit and two-digit numbers to 20, including zero
	read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Written Methods)
	read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Mental Calculation)
	solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$
Multiplication and Division	count in multiples of twos, fives and tens
	solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher
Fractions	recognise, find and name a half as one of two equal parts of an object, shape or quantity
	recognise, find and name a quarter as one of four equal parts of an object, shape or quantity
Algebra	<i>solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$ (copied from Addition and Subtraction)</i>
	<i>represent and use number bonds and related subtraction facts within 20 (copied from Addition and Subtraction)</i>
	<i>sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening (copied from Measurement)</i>
Measurement	compare, describe and solve practical problems for: * lengths and heights * mass/weight [e.g. heavy/light, heavier than, lighter than] * capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter] time [e.g. quicker, slower, earlier, later]
	sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday]
	measure and begin to record the following: lengths and heights mass/weight / capacity and volume / time (hours, minutes, seconds)
	recognise and know the value of different denominations of coins and notes
	tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.
	recognise and use language relating to dates, including days of the week, weeks, months and years
	recognise and name common 2-D, including: rectangles, squares, circles and triangles
Geometry Shape and Position	Recognise and name: 3-D shapes: cuboids, cubes, pyramids and spheres.
	describe position, direction and movement, including half, quarter and three-quarter turns.

National Curriculum. End of year 2 Expectations 1 of 3

Number - number and place value

- Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward
- Read and write numbers to at least 100 in numerals and in words
- Compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs
- Recognise the place value of each digit in a two-digit number (tens and ones)
- Identify, represent and estimate numbers using different representations, including the number line
- Use place value and number facts to solve problems

Number - addition and subtraction

- Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
 - Add and subtract numbers mentally, including:
 - a two-digit number and ones
 - a two-digit number and tens
 - two two-digit numbers
 - adding three one-digit numbers
- Add and subtract numbers using written methods, including:
 - two two-digit numbers
- Add and subtract numbers using concrete objects and pictorial representations, including:
 - a two-digit number and ones
 - a two-digit number and tens
 - two two-digit numbers
 - adding three one-digit numbers
- Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems
- Solve problems with addition and subtraction
 - using concrete objects and pictorial representations, including those involving numbers, quantities and measures
 - applying their increasing knowledge of mental and written methods

Number - multiplication and division

- Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals (=) signs
- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
- Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot

Number – fractions

- Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity
- Write simple fractions for example, $\frac{1}{2}$ of 6 = 3
- Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$

Measurement

- Compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$
- Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ($^{\circ}\text{C}$); capacity (litres/ml) to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels
- Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value
- Find different combinations of coins that equal the same amounts of money
- Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times
- Compare and sequence intervals of time
- Know the number of minutes in an hour and the number of hours in a days
- Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

Geometry - properties of shapes

- Compare and sort common 2-D shapes and everyday objects
- Compare and sort common 3-D shapes and everyday objects
- Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]

Geometry - position and direction

- Order and arrange combinations of mathematical objects in patterns and sequences
- Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)

Statistics

- Interpret and construct simple pictograms, tally charts, block diagrams and simple tables
- Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- Ask and answer questions about totalling and comparing categorical data

Top tips on how to support your child at home.

1. Make it Fun!
2. Let children see how maths is used in everyday life.
3. Learning key facts. E.g. Tables or bonds. It is better to do a little bit each day rather than one or two very long sessions. This way the concepts being taught will become really embedded. We need the children to become fluent.
4. Try to help the children see links and build on what they already know. E.g $2 + 8 = 10$ so $12 + 8 = 20$ and $20 + 80 = 100$.
5. Use the correct maths vocabulary with them and encourage them to talk about what they are doing. Supporting your child to reason about maths helps improve their understanding of number.
6. Support children with their homework but don't take over.
7. It might be tempting to show them how you did maths at school but it will probably just confuse them. Ensure you use the strategies used in school. See our website for details.
8. Provide them with everyday problems. E.g. It takes 20 minutes to get to the station. If my train is at 9 o'clock, when do I need to leave?
9. Do a mixture of mental, written and practical maths.
10. Allow children thinking time.
11. Encourage a growth mindset. It's okay to find maths hard sometimes because when we achieve we can get that feel good factor. We learn from our mistakes. Don't just praise correct answers. Praise effort and the process because they will fail sometimes. E.g. I really like the way you worked that out. If they complain something is hard say: Great that means your brain is working hard.

Here are just a few suggestions:

Number and Place value.

Count forwards and back as you walk up and down the stairs. Start in 1's and then can you do it in 2's ,5's and 10's.

Look at the house numbers on your street. What do you notice? Odds on one side, even on the other. This is a good way to count in twos.

Roll the dice. Ask your child to tell you 1 more or 1 less than that number. You can also use spinners and packs of cards for this. Then move onto making two digit numbers and then the children can recall 10 more and 10 less.

Addition and Subtraction.

Play snakes and ladders or other board games.

Throw two dice and add the amounts together. If spotty dice they can count the dice and then move onto dice with just the numbers on. Get them to keep the biggest number in their head and count on. You can move onto playing cards when children are confident with numbers to 10. Subtraction can be practised in the same way.

Bonds. All numbers to 20 including 4/5/6/7/8/9/11/12/13/etc

- Play Ping Pong to 9. You say Ping they say Pong and then you might say 7 and they would say 2 etc.
- Catching and Throwing. Throw a ball and call out a number, the children reply with a number to make up a bond.
- Splat. Have a large piece of paper write numbers on it 0-10. Call out a number Eg 5 and children would splat the number 5 on the sheet. They can try and get their quicker than you!
- Encourage the children to solve real life problems. Eg Lets set the table for 8 people. How many knives and forks do we need in total. We have 5 oranges in the fruit bowl and 6 bananas, how much fruit do we have altogether? In year two you could go onto adding 3 numbers.

Addition and subtraction continued

- Phrase questions in lots of different ways using a range of vocabulary. Eg. 8 add 7. What is 8 more than 7? What is the total of 8 and 7? 8 plus 7. I have 7 stickers and mum gives me 8 more. How many do I have now? I am 8 years old. My brother is 7 years older. How old is my brother?
- Dart boards are great for developing mental maths. Throw 2 darts and add the numbers together. Can you add 3 numbers? Can you aim to throw the darts so the numbers you hit make 10 or 20.
- Beat the calculator. Can your child add or subtract the numbers before you get the answer up on the calculator?
- Give your child a number. Ask the child to write as number calculations as they can.
Eg 14. $10 + 4 = 14$ $14 - 4 = 10$ $9 + 5 = 14$ $14 - 5 = 9$. (Get them to see patterns and encourage them to work methodically.)
- If you have plastic numbers you can hide them in the sand/math. Can they find two numbers that make 8? Is there another two numbers which you could find?
- Add this take that. You call out a number and then person 1 adds 5, person 2 takes away 3 and you keep going for as long as possible or until you hit a target number.

Multiplication and division.

- Use songs and actions to learn tables. (2/5/10x tables in KS1)
(You tube have lots to choose from)
- Learn tables out of sequence and related division facts. Rapid recall. Can they do it without using their fingers!
(You can make it in to a competition. If they get an answer right they get a point if you have to tell them you get a point.)
- Practical activities to encourage application of times tables i.e. setting the table, counting pairs of socks or shoes, packets of biscuits etc. If there are 5 biscuits in each pack. How many will we get if we buy 6 packs?
- Adapt the games like Ping Pong, Splat, Catching and throwing game mentioned above.
- Darts again. Child has to x the number they land on. Another variation. Child throws a dart. Ask child to divide that number by 2. Will it go exactly or will there be a remainder?
- Play bingo. Make a grid and children fill it with multiples of 2. You then call out x sums or $\div$ sums and they cross out the answers.

Measure

- Get children in the kitchen using scales.
- Get them a ruler or tape measure so they can see the different units of measure.
Set them a mission. Can they find something in the house which is exactly 10cm? Can they find 3 things that would measure exactly 1m when lined up?
- Give them different plastic containers in the bath and a jug. Get them to estimate and then measure how much liquid they hold using ml's.
- Make up a potion. Get the food colouring out and add 100ml of red water to 200ml of blue water and 50ml of green water. What would your potion do?
- Look in the kitchen cupboards and look at all the different units of measure you can find.
- Invest in an analogue clock or watch and constantly ask them what the time is at bedtime time, breakfast time etc. Ask questions like how long is it until bedtime and count in 5's on the clock.
- Encourage children to watch the weather forecast so they get to understand temperature. Many of us have one outside. Get them to log the temperatures for a week.

Money.

- Let children have their own purses and money boxes.
- Create a toy shop or grocers at home with food from the cupboard. Encourage children to pay with the correct amount, find totals, work out the change etc.
- Making a given amount in lots of different ways. eg. $10p = 5p + 5p$ or $10p = 2p + 2p + 1p + 5p$.
- Count in 2p's, 5p's and 10p's.

Games:

Orchard toys produce some great games that will help children learn the time or use money etc.

Rata tat cat- a game which helps children with mental maths. It's one recommended by Mensa.

The Great Board Game Co. produce some nice card games. E.g tell the time snap.

Computers/Internet:

Children in year 2 have log in details for Timetables Rocks Stars and NumBots.

Children in year 1 and 2 have access to Mathletics.

There are lots of different maths games on Mathsframe and also Topmarks.

APPs for iPad.

- Base ten Bingo
- Slide 100
- Number pieces
- Maths Facts
- Maths Rockx (Songs and quizzies for x tables)
- Number bonds
- Friends of 10 by Little Monkey.