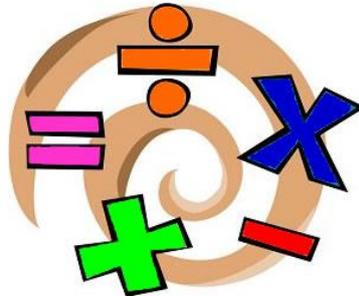




St. Andrew's C E Primary and Nursery School



Supporting your child's progression in Maths A Guide for Parents

Evidence has shown that, as with reading and writing, the more involved parents/carers are in supporting their child's learning in this area, the more rapid progress they make. However, you do not need extensive mathematical knowledge to support your child/ren's learning and the support need not be repetitive sheets and booklets. It can and should be fun.

The following guide explains what your child is expected to know and understand at the end of Year 4, alongside some suggested activities which you could do to help your child towards these expectations.

The Year 4 Learner

Working mathematically

By the end of year 4, children will apply their understanding of maths to solve a wide variety of problems with more than one step and be expected to prove their thinking through pictures, jottings and conversations. They will continue to make connections between different areas of maths and ask their own questions, working in an organised way to find solutions which help them identify common patterns or any errors more easily.

Please see the ideas in the sections below which will provide your child with a range of opportunities to work mathematically. These are additional activities that will be beneficial alongside weekly maths homework.

Number

- **Counting and understanding numbers**

Children will be very familiar with numbers that have up to 4 digits and will be able to order and compare by showing them in different ways such as on a tape measure or using hands-on resources. Using their understanding of place value (how the value of each digit changes depending on its position in the number), children will be able to partition (break and make) numbers in different ways e.g. $2345 = 2000$ and 300 and 40 and 5 but could also represent this as 1000 and 1000 and 200 and 100 and 40 and 5 or 2000 and 200 and 145 . They will work with numbers securely up to $10,000$ and may begin to count beyond in $1s$, $10s$, $100s$ and $1000s$. They will use this to help them find 10 , 100 or 1000 more or less than any given number. They will multiply and divide whole numbers by 10 and 100 and understand that this changes the value of each digit rather than 'just adding a 0'. They will develop their understanding to decimal hundredths, comparing and ordering these using contexts such as money. Children will also learn about the pattern to find any Roman numeral to 100 .

Children will develop their expertise when counting forwards and backwards from 0 to include multiples of 6 , 7 , 9 and 25 ; decimals with up to 2 places and fractions. They will be able to fluently count in tenths, hundredths and simple fractions. They will develop their understanding of negative numbers through counting backwards through 0 . Children will be able to recognise and describe number patterns and relationships including multiples (e.g. 3 , 6 , 9 , 12 are multiples of 3) and factor pairs (e.g. 1 and 12 , 2 and 6 , 3 and 4 are all factor pairs for 12) for known times tables.

Ideas to help your child achieve these expectations by the end of the school year.

- If you see a number partition it e.g. $634\text{cm} = 600 + 30 + 4 \text{ cm}$.
- Finding 10 , 100 or 1000 more or less than a given number e.g. 263 miles to destination what would this be if we added $10/100/1000$ more or less.
- Read thermometers in different places/throughout year to identify changes – including reading negative numbers.
- Provide a number and ask child to count forwards/backwards in multiples of 6 , 7 , 9 and 25 i.e. start number $15 + 6 + 6$ etc.

Calculating

Children will develop various strategies for solving $+$, $-$, \times , \div calculations mentally, using jottings when appropriate and for checking that their answers are sensible. Children will be encouraged to share their methods with others to help them see which work best, are quickest and most accurate. Over the course of the year, children will become fluent in all multiplication and division facts up to 12×12 and apply these facts to other problems e.g. $232 \times 7 = (200 \times 7) + (30 \times 7) + (2 \times 7)$. Children will use the $=$ sign to demonstrate equal value e.g. $3 \times 8 = 48 \div 2$ and solve missing number problems e.g. $3 \times ? = 48 \div 2$. They will explore patterns and rules for the times tables they learn and use pictures and objects to support their understanding.

Children will be required to solve problems accurately using the column addition and subtraction methods for numbers with up to 4-digits and explain how the methods work. They will use apparatus to secure their understanding of these. This will include addition and subtraction calculations with different numbers of digits (such as $1286 + 357$); and numbers containing 0s (such as $8009 - 3231$). They will use formal written methods of short multiplication and short division for two and three digit numbers by a single digit. Children who become very adept at these types of calculations will be stretched through problems such as those containing missing numbers so that they know when, if and why they need to use the methods.

Ideas to help your child achieve these expectations by the end of the school year.

- Ensure your child is confident in both division and multiplication facts up to 12×12 e.g. create a board game, Times Tables Rockstars, matching games, BBC Super Movers website <https://www.bbc.co.uk/sport/football/supermovers>
- Baking e.g. adding and subtracting quantities - I have 100g and need 75g how many grams do I need to take away?
- Finding the difference between time – It is 3.10pm, how many more minutes until the next hour.
- Any opportunities to practise addition, subtraction, multiplication and division including written and mental methods i.e. board games, baking, measuring, playing snooker, darts, timings of football matches etc.
- Opportunities to round up and down e.g. £4.68 - what would be the nearest whole pound?

- **Fractions including decimals**

Children will develop their understanding of fractions by comparing to, or finding a part of, the whole. Through hands-on resources, pictures or jottings, such as a number line, children will add and subtract two fractions with the same denominator (e.g. $\frac{2}{3} + \frac{2}{3}$). Children will solve problems involving fractions such as 'find $\frac{3}{4}$ of 20 litres' using their knowledge of multiplication and division and through practical equipment. Children secure their understanding that fractions and decimals are different ways of expressing numbers and proportions.

Ideas to help your child achieve these expectations by the end of the school year.

- Find fractions of amounts whilst baking i.e. icing batch of cakes in 4 different colours.
- Cutting cake/pizza into required equal parts. Count out required number of biscuits/grapes, what fraction of whole does it represent?
- Share liquid into equal parts – e.g. pouring drinks.

Measurement

Children secure their understanding of place value and decimals to record measurements accurately. They use their understanding of multiplying and dividing by 10, 100 and 1000 to convert between different units of measure of length (km, m, cm, mm), weight (kg, g) and money (£ and p). Children will link their understanding of area to multiplication and describe how to find the perimeter of a rectangle quickly. Children will read and write the time accurately using analogue and digital clocks, including clocks with Roman numerals. They will convert between units of time (hours, minutes and seconds). Children estimate, compare, calculate and solve a variety of problems involving all units of measurement.

Ideas to help your child achieve these expectations by the end of the school year.

- Encourage your child to be involved in reading scales, e.g. when baking.
- Practise measuring objects and converting to nearest unit of measure e.g. mm to cm, cm to m.
- Compare drink bottle sizes e.g. how many 250ml/500ml would fit into a 2L bottle.
- Find opportunities to read analogue and digital clocks regularly, both 12 and 24 hour. Discuss journey times e.g. if it takes 90 minutes to complete a journey how many hours and minutes is this?
- Look at timetables – when is the bus/train arriving? How long is the journey?
- Measure the perimeter of an area i.e. different rooms in a house. Compare and convert between cm and m.
- Opportunities to spend money, handling coins and working out change.
- Look out for Roman Numerals in the environment – what date are they showing?
- Convert digits into Roman Numerals.

Geometry

Children will extend their knowledge of shape to include more unusual quadrilaterals (four-sided shapes) and triangles. They will use increasingly more specific vocabulary such as parallelogram, rhombus and trapezium; scalene and isosceles. They refine their understanding of symmetry and solve problems where the shape is not displayed in its usual way (e.g. it might be on its side). Children find and name different angles and use this information to decide if a shape is regular or irregular. Children describe position and movement on a grid as co-ordinates and will plot points to draw 2-D shapes.

Ideas to help your child achieve these expectations by the end of the school year.

- Identify shapes in the environment e.g. what shapes can I see around me? Can I describe the properties of the shape I can see? How many different shapes can I see in 5 minutes?
- How many different 3D shapes can I spot around the house?

Statistics

Children will complete, read and interpret information on bar charts; they will solve problems that involve finding information in charts, tables and graphs; including time graphs.

Ideas to help your child achieve these expectations by the end of the school year.

- Support your child in reading weather charts in newspapers, bus and train timetables.