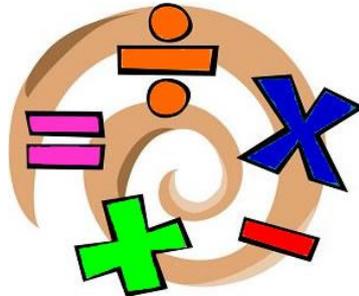




## St. Andrew's C E Primary and Nursery School



### 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 children'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 3, alongside some suggested activities which you could do to help your child towards these expectations.

## The Year 3 Learner

### Working mathematically

By the end of year 3, children will talk about their mathematics using the numbers they are familiar with, applying their understanding of number, measures and shape to a greater range of problems. They will make decisions about calculations and information that is needed to solve problems, for example when a recipe for two people needs to be doubled to make a recipe for four. Children will be expected to prove their thinking through pictures, jottings and conversations. They will be encouraged to pose their own questions, working in an organised way to solve them which will help pupils to identify common patterns or any errors more easily.

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

- Please see the ideas in the sections below which encompass a range of opportunities for working mathematically.
- These are additional activities that may be beneficial to do alongside weekly maths homework.

### Number

- **Counting and understanding numbers**

Children will be very familiar with numbers that have 3 digits and will have experienced many opportunities to order, compare and show them in different ways using apparatus such as a tape measure, a 100 grid or money. 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.  $234 = 200$  and  $30$  and  $4$ ;  $100$  and  $100$  and  $20$  and  $10$  and  $4$ ; or  $200$  and  $20$  and  $14$ . They will develop a secure understanding of numbers up to  $1000$  and will count beyond it in  $1$ s,  $10$ s and  $100$ s. They will use this counting to help find  $10$  or  $100$  more than any given number.

Children will be introduced to numbers with one decimal place and will count up and down in tenths; share groups of objects or shapes into tenths and represent these in pictures and using hands-on resources.

Children will count forwards and backwards from  $0$  in steps of  $4$ ,  $8$ ,  $50$  and  $100$  and link this to multiplication and division. They will also count in  $3$ s to help maintain their fluency from Year 2.

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

- Find opportunities for reading and recognising the place value in 3 digit numbers e.g. the bus number  $341$  – how many hundreds, tens and ones?
- Encourage children to find  $1$ ,  $10$  or  $100$  more or less than a given number e.g. reading signposts on a journey –  $67$  miles to go, how many will be left to go in  $10$  miles time?
- Count forwards and backwards from any given number up to  $1000$ .
- Use songs and rhymes to count in different patterns. There are lots of helpful songs and clips online, for example, on BBC Sport Super Movers <https://www.bbc.co.uk/sport/football/supermovers> and YouTube

- **Calculating**

Children will continue to develop their mental calculation skills to add and subtract combinations of three-digit numbers e.g.  $248 \pm 8$ ;  $319 \pm 40$ ;  $428 \pm 200$ . They will develop their range of strategies using jottings (sketches and notes to help them remember the steps) and number lines to help them understand how each calculation works. Children will share their methods with others to help them see which work best, are quickest and most accurate. Children will understand the importance of estimation when calculating to see if their answer is reasonable or not. They will recall their multiplication and division facts for 3, 4 and 8x tables and be supported to see the links between the 2, 4 and 8x tables. They explore patterns and rules for the times tables they learn and will use pictures and objects to support their understanding. They will also learn that multiplication can be done in any order e.g.  $3 \times 4 \times 2 = 2 \times 3 \times 4$ .

Children will be introduced to more formal methods of recording addition and subtraction, including column methods. They will use hands-on resources to secure their understanding of these methods. This will be applied to numbers up to three digits. Children who become very adept at these calculations will be stretched through problems such as those involving missing numbers so that they know when, if and why they need to use these methods.

Children will develop their understanding of multiplication and division and apply their times table knowledge to multiply 2-digit by 1-digit numbers using the skills of partitioning (breaking and making numbers). For example,  $43 \times 5$  can also be thought of as  $40 \times 5$  and  $3 \times 5$  or  $(4 \times 5 \times 10) + (3 \times 5)$ . They will move from informal methods of calculating multiplication and division to formal written methods i.e. short column multiplication and be supported by using hands-on resources.

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

- Find opportunities to estimate when adding/subtracting e.g. when shopping – how much will these 3 items cost roughly? Approximately how much money will I have left to spend if I only have £10?
- Encourage use of online games and songs such as Times Table Rockstars.
- Gain fluency using written methods for all four operations. Opportunities for this may be given as written homework.

- **Fractions**

Children will develop their understanding of fractions and decimals and will be introduced to tenths. They will count and understand tenths as ten equal parts as well as through dividing sets of objects into ten equal parts / groups. They will find and write fractions of objects using their multiplication tables knowledge, e.g.  $\frac{1}{5}$  of a group of 20 buttons can be solved by  $20 \div 5 = 4$ , and will continue to explore equivalent fractions using diagrams to explain their understanding e.g.  $\frac{2}{4}$  is

equivalent to or of equal value to  $\frac{4}{8}$ . They will also begin to add and subtract fractions where the denominator is the same e.g.  $\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$ .

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

- Count up and down in tenths.
- Discuss fractions when real life opportunities arise such as sharing a pizza or bar of chocolate.
- Link finding fractions of amounts when practising multiplication and division facts e.g. 12 sweets shared between 4 people is  $12 \div 4 = 3$  and  $\frac{1}{4}$  of 12 is 3.

## Measurement

Children will continue to measure, compare, add and subtract measurements and progress to mixed units e.g. expressing amounts as litres and millilitres – 2 litres 400ml. They will measure the perimeter of 2-D shapes and will continue to add and subtract amounts of money including giving change. Children will estimate and read time to the nearest minute on analogue and digital clock faces. They will be introduced to the Roman numerals I to XII to help with this. Problem solving and calculating with time will involve comparing the duration of events such as the length of favourite television programme or journeys to school. They will use language with increasing accuracy, such as seconds, minutes and hours; o'clock, a.m. / p.m., morning, afternoon, noon and midnight. They will need to recall the number of seconds in a minute and the number of days in each month, year and leap year

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.
- Measure the perimeter of different shapes and spaces e.g. books on a shelf or the perimeter of a room.
- Find opportunities for your child to handle coins and notes when spending money and finding change.
- Read the time to the nearest minute on analogue and digital clocks and practise converting between the two.
- Discuss and compare the duration of different events in the day.
- Use rhymes to remember the amount of days in each month e.g. 30 days has September, April, June and November.

## Geometry

Children will accurately draw 2-D shapes with rulers measuring sides accurately. They will make 3-D shapes to help them understand how they are composed and will recognise 3-D shapes in a range of places and contexts (e.g. buildings, packages) and use correct mathematical vocabulary to describe them. They will learn what a right angle is and know that two right angles make a half-turn, three make three quarters of a turn and four a complete turn as well as identify whether angles are

greater than or less than a right angle . They will also be able to identify horizontal and vertical lines and pairs of perpendicular ( $\perp$ ) and parallel lines ( $\parallel$ ).

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

- Spot different 2D and 3D shapes around the house and in different environments.
- Compare the number of edges, faces and vertices that household objects have e.g. shoebox, Pringle tube.
- When drawing or sketching, encourage children to draw shapes accurately and measure lines to the nearest cm and mm.
- Spot different types of lines in a range of places.
- Find right angles in different places and see if angles are greater than or less than a right angle e.g. on a dartboard or hands on a clock.

### **Statistics**

Children will collect, organise, answer and pose questions about information using bar charts, pictograms and tables to answer questions such as 'how many more children prefer football to cricket?'

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

- Encourage children to interpret information in charts and graphs e.g. bus timetables, food packaging.