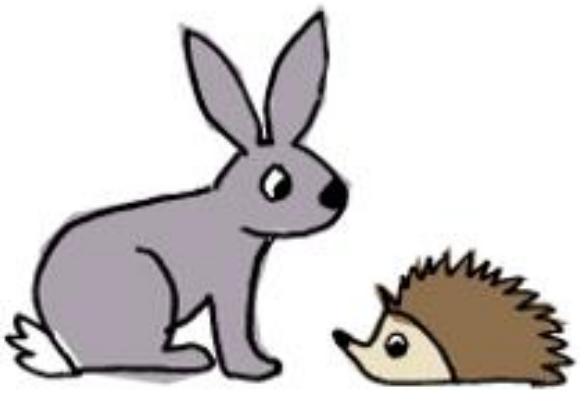
Prior Park Schools
THE PARAGON SCHOOL

How can I help my child with mathematics in Year 4?



At The Paragon, we make Maths come alive by showing how important it is in everyday life - a vital tool in working out how long it's going to take to save up for that new computer game or measuring the ingredients for a chocolate cake.

We strive to develop a positive attitude to Mathematics as an interesting and purposeful subject in which all children can gain a degree of success and pleasure.

"We need to help learners shift from thinking 'I can't do this' to 'I can't do this yet'; to encourage, in all learners, a 'can do' attitude. Developing an 'I can't do this yet' disposition means being comfortable with getting stuck on some mathematics." - Mike Askew

An important role of any parent is to support this positive attitude towards Maths. In this way, pupils at The Paragon can develop a secure understanding of Mathematical concepts and processes, combined with a genuine procedural fluency and joy in the subject.

Always begin by asking your child what they already know. It is important that children are learning with consistency whether at home or in school. If you are unsure of how to best support your child's understanding of a mathematical concept, class teachers are more than willing to answer any questions.

Addition

Using place value

Partitioning

e.g. *£8·50 + £3·70 as £8 + £3 and 50p + 70p and combine the totals: £11 + £1·20*

Record addition using the column method:

$$\begin{array}{r} 423 \\ +138 \\ \hline 561 \\ \hline 1 \end{array}$$

Subtraction

Using place value

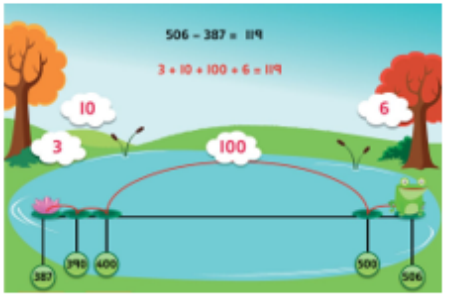
Partitioning

e.g. *£5·87 – £3·04 as £5 – £3 and 7p – 4p*

e.g. *7493 – 2020 as 7000 – 2000 and 90 – 20*

Counting up

Find a difference between two numbers by counting up from the smaller to the larger



Record subtraction using the column method:

$$\begin{array}{r} \,5\,1 \\ 5\,\not{6}\,1 \\ -\,1\,3\,8 \\ \hline 4\,2\,3 \end{array}$$

Multiplication

Using number facts

Know times-tables up to 12 × 12

Record multiplication using the grid method: 15x13=195

x	10	5
10	100	50
3	30	15

→ 100 + 50 + 30 + 15 = 195

Division

Using number facts

Know division facts up to 12 x 12

Record division using the 'bus stop' method: 79÷3=26 r 1

$$\begin{array}{r} 2\ \ 6\ \ r1 \\ 3\overline{)\,7\ 19} \end{array}$$

Practise multiplication regularly at home: you could have a go at 'The '55' Club'
First aim- get as many as possible correct
Second aim-time how long this takes and try to beat time

The '55' Club

10 x 10 =	4 x 8 =	4 x 6 =	6 x 7 =
2 x 10 =	5 x 9 =	8 x 8 =	2 x 3 =
1 x 2 =	7 x 9 =	3 x 5 =	7 x 7 =
5 x 10 =	6 x 8 =	5 x 8 =	6 x 6 =
9 x 10 =	1 x 3 =	2 x 9 =	3 x 6 =
2 x 2 =	4 x 10 =	4 x 5 =	7 x 10 =
3 x 8 =	7 x 8 =	4 x 9 =	9 x 6 =
8 x 10 =	5 x 6 =	8 x 9 =	3 x 10 =
1 x 4 =	4 x 7 =	2 x 5 =	1 x 7 =
1 x 5 =	3 x 7 =	6 x 10 =	5 x 7 =
9 x 9 =	2 x 8 =	1 x 8 =	
1 x 10 =	3 x 4 =	3 x 9 =	
2 x 6 =	2 x 4 =	1 x 9 =	
1 x 6 =	2 x 7 =	3 x 3 =	
1 x 1 =	5 x 5 =	4 x 4 =	

By the end of Year 4 most children will be able to:

- Read, write and understand place value in 4-digit numbers
- Compare 4-digit numbers using < and >
- Order 4-digit numbers and place them on a number line
- Round 3-digit numbers to the nearest 100
- Understand the relationship between 1/10 and 0.1
- Round 4-digit numbers to the nearest 10,100,1000
- Count on and back in multiples of 10,100,1000
- Count on and back in multiples of 25, 50
- Understand the place value of tenths in decimal numbers, 1/10=0.1
- Compare one place decimals using < and >
- Round decimals to the nearest whole number
- Say the number 100 more/less than a 4-digit number
- Say the number 1000 more/less than a 4-digit number
- Read, write and understand place value in 5-digit numbers
- Compare 5-digit numbers using < and >
- Order 5-digit numbers and place them on a number line
- Read, write and order negative numbers in the context of temperature
- Read and write decimals to 2 places
- Order one place decimals
- Understand tenths and hundredths in terms of decimals
- Count in decimals using tenths and hundredths
- Compare two place decimals in the context of length
- Find decimal numbers between two numbers
- Recognise roman numerals to 100
- Write roman numerals to 100
- Understand the history of our number system including zero
- Find pairs of number to 100
- Work out how many to the next multiple and the previous multiple of 100
- Subtract/find difference between 3-digit numbers by counting up or back
- Add several numbers
- Correctly choose strategies for + and -
- Add 3-digit numbers using column addition
- Subtract 3-digit numbers by column subtraction
- Use written methods to add 4-digit numbers
- Compare mental and written strategies for subtraction and addition
- Add multiples of 10,100 to 4-digit numbers mentally
- Subtract multiples of 10,100 from 4-digit numbers mentally
- Find complements to 1000 using counting up

- Find change for £10, £20, £50 using counting up
- Add 4-digit numbers to give 5-digit answers
- Read, interpret and solve addition word problems using large numbers
- Add amounts of money mentally and using written methods
- Subtract amounts of money mentally and using written methods
- Subtract 4-digit numbers using column subtraction
- Say 0.1 more/less than a given number
- Say 0.01 more/less than a given number
- Using decimals, add to the next whole number
- Check subtraction by doing addition
- Learn 6x and 9x table facts and identify patterns
- X multiples of 10 by single digits
- X 2-digit numbers by single digits mentally or using the grid method
- Double 3-digit numbers using partitioning
- Halve 3 digit even numbers using partitioning
- X and ÷ single digits by 10 using decimal notation
- Use the grid method to x 3-digit numbers by single digit
- Estimate products
- Use vertical x to multiply 3-digit numbers by single digit
- Divide 2-digit numbers by single digit (no remainder)
- Know the 7x table x and ÷ facts
- Use vertical x to multiply money
- X and ÷ by 4 by doubling and halving
- X by 5 by multiplying by 10 and halving
- X by 20 by doubling and x by 10
- Understand how to use mental strategies to divide 2- and 3-digit numbers
- Identify factor pairs and use them to solve x and ÷ of larger numbers
- ÷ 2-digit numbers by 10- and 3-digit multiples of ten by 100 to get decimals
- X decimals numbers by 10/100 to get 2/3-digit numbers
- Use a written method to x 3-digit numbers by single digit
- Understand that x and ÷ are inverses
- ÷ 3-digit numbers by single digit, 'bus stop' written method (no remainders)
- X and ÷ numbers by 10 and 100 including decimals (max 2 places of decimals)
- Know 11x tables facts and spot patterns
- Know 12x table facts and spot patterns
- Find factors of 2-digit numbers
- Divide by 2,4,8 by halving
- X 2-digit numbers by 11, look for patterns and find rules

- X 2-digit numbers by 12, look for patterns and find rules
- Use the grid method to x 2-digit numbers by 2-digit numbers
- ÷ 3-digit numbers by single digit, 'bus stop' method (incl with remainders)
- Use x to check ÷ answers
- Recognise acute, obtuse and right angles
- Identify perpendicular and parallel lines
- Describe the properties of 2D shapes (angles, lines, symmetry)
- Recognise and draw line symmetry in shapes
- Draw the other half of symmetrical shapes
- Sort 2D shapes using given criteria
- Draw shapes with given properties
- Name/describe 2D shapes incl quadrilateral, pentagon, hexagon, octagon
- Identify and sort types of quadrilateral
- Identify and sort types of triangle
- Identify polygons and sort into regular/irregular
- Sort 2D shapes according to their properties
- Name/describe 3D shapes incl triangular prism, triangular pyramid, hexagonal prism
- Sort 3D shapes according to faces, edges, vertices
- Collect data into a frequency table by investigation
- Draw and interpret bar charts where one step is 1,2,5,10,100 units
- Draw and interpret pictograms where 1 symbol is >1 unit
- Draw a line graph and recognise that intermediate points have meaning
- Read values from a line graph (incl intermediate values)

- Use coordinates in the first quadrant
- Translate shapes in the first quadrant
- Tell the time to the nearest minute using analogue clocks
- Tell the time to the nearest minute using digital clocks
- Know there are 60 mins in an hour
- Convert between analogue and digital clocks
- Use counting up to find time intervals (including across the hour)
- Estimate lengths in m, cm, mm
- Use a ruler to measure in m, cm and mm
- Write m/cm and cm/mm using decimal notation
- Convert m/cm and cm/mm
- Estimate and weigh items to the nearest 100g
- Convert multiples of 100g to kg and kg to g
- Convert multiples of 100ml to litres and litres to ml
- Estimate and measure capacity to the nearest 100ml
- Read scales to the nearest 100g/100ml
- Draw lines of a given length cm and mm

- Tell the time using a 12-hour clock using am and pm
- Tell the time using a 24 clock
- Convert 12 to 24-hour clock and vice versa
- Calculate time intervals using the 24-hour clock
- Calculate the perimeter of a rectangle given its dimensions
- Find missing lengths in rectangles
- Solve word problems involving length and perimeter
- Understand the difference between area and perimeter
- Calculate the area of rectangles by counting and multiplication
- Calculate the area of compound rectilinear shapes
- Calculate the perimeter of compound rectilinear shapes
- Use the correct units for area and perimeter
- Write lengths using fractions and decimals
- Use division to find unit fractions of amounts
- Compare unit fractions
- Recognise fractions equivalent to halves, thirds, quarters
- Reduce fractions to simplest form
- Count in steps of ½, ¼, 1/8, 1/6, 1/10
- Order simple fractions and decimals (incl mixed numbers) on a number line
- Find non-unit fractions of 2-digit numbers e.g. 3/5 of 45
- Find non-unit fractions of 3-digit numbers
- Identify fractions equivalent to ½, ¼, 1/3
- Compare fractions with different denominators
- Know decimal equivalents: 1/10, ¼, ½, ¾
- Add fractions with the same denominators
- Convert improper fractions to mixed numbers
- Organise written work in a logical way
- Check that all solutions have been found
- Spot, describe and predict patterns in numbers
- Make sensible choices between written and mental methods of calculation
- Use logical reasoning to look for patterns
- Use a methodical and systematic approach to investigating and reasoning
- Solve simple word problems by deciding which of the 4 operations to use
- Solve 2 step word problems using all 4 operations setting work out with care
- Use rounding/number knowledge to estimate solutions

In Prep, pupils have access to 'DoodleMaths', a Maths app which develops a tailor made programme for each child. Independent studies with schools have shown that students using 'DoodleMaths' for 10-15 minutes daily over the course of 4 weeks make an average improvement of 3.5 months in their Maths age.

Your child will be given a username and password which they can use to log in to the DoodleMaths App. We recommend that this is used regularly throughout the year to support their Maths learning at home and it will be set as homework every other week.

You can record your child's log in details here:

Username: _____

Password: _____