Maths in EYFS

Calculations Policy for Parents

Wheatcroft Primary School

When teaching Mathematics as Wheatcroft, we intend to use a variety of teaching methods, strategies and resources that support all pupils and allow equal access to Mathematics.

This policy has been created to help you support your child at home with Maths. It shows the progression through different strategies for addition, subtraction, multiplication and division reflecting the Primary National Curriculum (2014). Recording in Mathematics is an important tool both for furthering the understanding of ideas and for communicating those ideas to others. A useful written method is one that helps children carry out a calculation and can be understood by others.

While this policy focuses on written calculation in mathematics, we recognise the importance of mental strategies and known facts that form the basis of all calculations. Pupils are provided with frequent opportunities to compare and evaluate different calculation strategies. This helps them develop an understanding that efficiency is personal and based on the numbers involved. Written methods are complementary to mental methods and should not be seen as separate from them. The aim is that children use mental methods when appropriate, but for calculations that they cannot do in their heads, they use an efficient written method accurately and with confidence.

You can help your child's understanding by using practical methods and experimenting using toys, counters or objects like those illustrated. It is important for children to understand that Maths has a purpose and how it is used in everyday life. You can give them many of these opportunities at home.

Encourage your child to explain what they are doing. This will enhance their mathematical vocabulary as well as helping them to develop deeper understanding through enhancing their reasoning skills.

Maths in Early Years Foundation Stage

'Mathematics involves providing children with opportunities to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to describe shapes, spaces, and measure'.

(Statutory Framework for the Early Years Foundation Stage, DfE: 2017)

Mathematics for young children should be meaningful and where possible, taught in the context of real life. Early experiences of Maths should be engaging and encouraging to enable children to develop confidence in their own abilities and to understand and use Mathematics. Positive experiences can inspire curiosity, inventiveness and perseverance contributing to their future successes.

Shape Space and Measure Expectations in EYFS

30-50 Months+	Shows an interest in shape and space by playing with shapes or making arrangements with objects. Shows awareness of similarities of shapes in the environment. Uses positional language. Shows interest in shape by sustained construction activity or by talking about shapes or arrangements. Shows interest in shapes in the environment. Uses shapes appropriately for tasks. Beginning to talk about the shapes of everyday objects, e.g. '*round*' and '*tall*'.
40-60 Months+	Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes. Selects a particular named shape. Can describe their relative position such as *'behind'* or *'next to'*. Orders two or three items by length or height. Orders two items by weight or capacity. Uses familiar objects and common shapes to create and recreate patterns and build models. Uses everyday language related to time. Beginning to use everyday language related to money. Orders and sequences familiar events. Measures short periods of time in simple ways.
ELG	Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.
Exceeding	Children estimate, measure, weigh and compare and order objects and talk about properties, position and time.

Number Expectations in EYFS

30-50 Months+	Uses some number names and number language spontaneously.
	Uses some number names accurately in play.
	Recites numbers in order to 10.
	Knows that numbers identify how many objects are in a set.
	Beginning to represent numbers using fingers, marks on paper or pictures.
	Sometimes matches numeral and quantity correctly.
	Shows curiosity about numbers by offering comments or asking questions.
	Compares two groups of objects, saying when they have the same number.
	Shows an interest in number problems.
	Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same.
	Shows an interest in numerals in the environment.
	Shows an interest in representing numbers.
	Realises not only objects, but anything can be counted, including steps, claps or jumps.
40-60 Months+	Recognises some numerals of personal significance.
	Recognises numerals 1 to 5.
	Counts up to three or four objects by saying one number name for each item.
	Counts actions or objects which cannot be moved.
	Counts objects to 10, and beginning to count beyond 10.
	Counts out up to six objects from a larger group.
	Selects the correct numeral to represent 1 to 5, then 1 to 10 objects.
	Counts an irregular arrangement of up to ten objects.
	Estimates how many objects they can see and checks by counting them.
	Uses the language of 'more' and 'fewer' to compare two sets of objects.
	Finds the total number of items in two groups by counting all of them.
	Says the number that is one more than a given number.
	Finds one more or one less from a group of up to five objects, then ten objects.
	In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting.
	Records, using marks that they can interpret and explain.
	Begins to identify own mathematical problems based on own interests and fascinations.
ELG	Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number.
	Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.
Exceeding	Children estimate a number of objects and check quantities by counting up to 20. They solve practical problems that involve combining groups of 2, 5 or 10, or sharing into equal groups

Addition

EYFS

Models and Examples

Numicon and linking cubes
Numicon shapes and linking cubes are used to:
-Identify 1 more/less
-Combine pieces to add
-Find number bonds
-Add without counting
For example:

Manipulatives
Children can begin to combine groups using manipulatives.
For example:
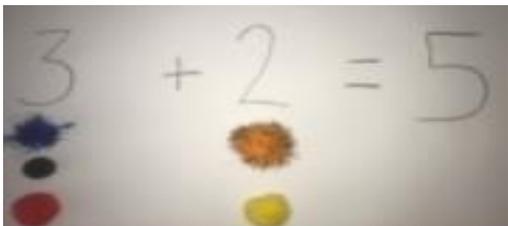
Fingers
Children can solve simple problems using their hands.
For example:

Number lines
Number lines can be introduced to support addition.
For example:
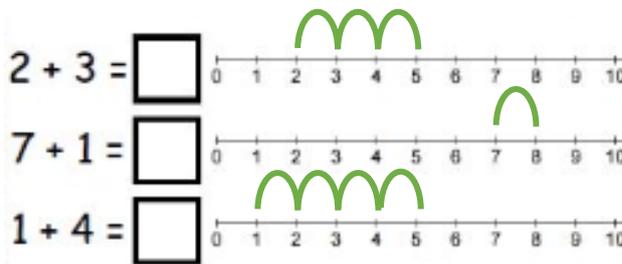
Key Vocabulary

sum   total   altogether   score   double   less   plus   equals

one more, two more, five more…

How many more make…?   How many more is … than …?

'Can you find one more than 5? Can you find one less than 9?'

Notes

Children in EYFS need a number of resources and manipulatives during independent learning to explore, challenge and solve.

Subtraction

EYFS

Models and Examples

Pictorial Representations
Children begin with mostly pictorial representations, such as using real life objects and pictures from the children's experience. Games also help the chidren understand what happens when objects are taken away in a fun and practical context.

Number Lines
Number tracks are then introduced to count backwards and find one less.

Number lines are then used alongside number tracks and practical apparatus to solve subtraction calculations and word problems.
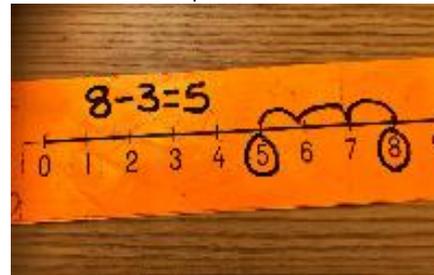
Concrete Resources
Concrete apparatus is used to relate subtraction to taking to taking away and counting how many objects are left.

Multilink
Multilink cubes and counters help to do this.
The objects are then related to numerals and the children begin to construct number sentences to represent what they have done.
Children verbalise the number sentence to help understand what each part represents.
Children can make a record of what they have done in pictures, words or symbols.
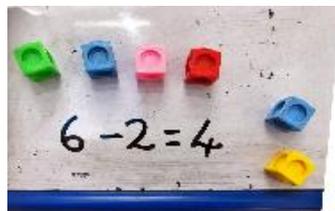
Fingers
Children can use their fingers to help solve number sentences.

Key Vocabulary

take away   leave   difference

how many are left?   how many are left over?

one less, two less, ten less...

how many fewer is... than...?

Notes

Games and songs can be a useful way to begin using vocabulary involved in subtraction E.G. Five little men in a flying saucer

Children in EYFS need a number of resources and manipulatives during independent learning to explore, challenge and solve.

|	Multiplication
	EYFS
Models and Examples	The link between addition and multiplication can be introduced through doubling. Numicon and Linking Cubes Numicon or linking cubes are used to visualise the repeated adding of the same number. These can be drawn around or printed as a way of recording. We also make square numbers with linking cubes. Real life contexts and use of practical equipment help to count repeated groups of the same size. Visual Representations Children are given multiplication problems set in a real life context and are encouraged to count in 2s, 5s and 10s. For 2s, counting pairs of socks or animals going in to Noah's Ark. For 5s, counting fingers on hands on gloves. For 10s we group objects and count. We make games such as bowling where each skittle is worth 10 points. How many skittles can you knock over? What is your answer? How many fingers on two hands? How many legs on 2 dogs? How many sides on 5 triangles?
Key Vocabulary	double lots of groups of times multiply repeated addition once, twice, three times, ten times… …times as (big, long, wide…) .
Notes	

Division

EYFS

Models and Examples

Children are given a range of opportunities to manipulate and experience a variety of resources in real life contexts and through role play.

Sharing
Share out the ladybird's spots so each half of her body has the same amount.
How many does she have on each side?
What happens if you start with a different number of spots each time?
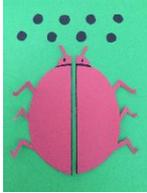
Real Life Objects
Halve objects, for example half an apple, half a cake, half a pizza, etc.

Share the apples between two people. 'Half the apples for me, half the apples for you.'
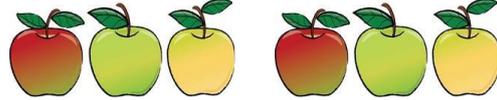
Share the bananas fairly between the 3 monkeys. How many do they have each?
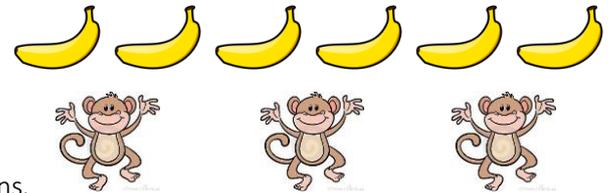
Word Problem Example
Pirate Panda has taken all the treasure, 20 golden coins.
Cat, Dog and Rabbit jump about excitedly.
"Can we have some too?"   "No! No! No!" says Pirate Panda.
Can the children suggest what Panda ought to do?

Is it fair?   Have they all got the same amount?   Is it fair now?   Why is this fair/not fair?
How do you know?   Could you draw a picture to show Panda what to do in order to be fair?

What if we give them another one each?   Sheep comes along - what should we do now?
Bear comes too, so what could we do about the remainder?   What else could we do?

Key Vocabulary

halve   share   divide

one each, two each, three each…

equal groups of…

left   left over

Notes

Fractions

EYFS

Models and Examples

Children will solve problems involving sharing and halving – this will include lots of practical experince.

For example:
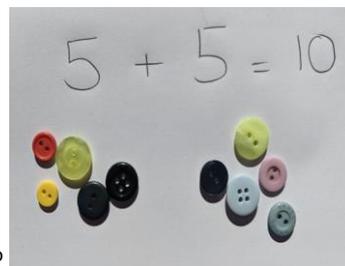
I have 10 buttons to share with my friend. How many will we get each?
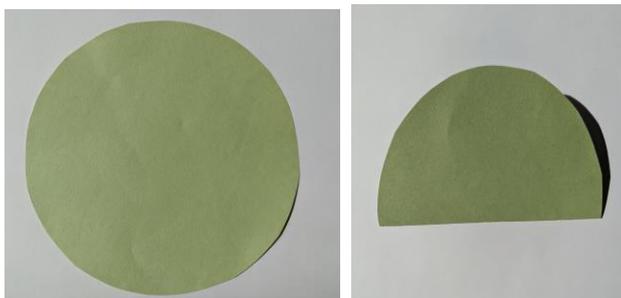
Fold the circle in half

Can you pour half of the water into each beaker?

Key Vocabulary

fraction part half halves third

halve share divide

one each, two each, three each…

equal groups of….

Notes