

Intent:

We believe that Maths is an important part of a child's development and transition into adulthood. We aim for the children to become confident, numerate young people who can apply mathematical skills in a range of contexts.

Implementation:

Our pupils develop their early maths skills through a daily focus on number fluency taught using Rekenrek, alongside lessons focusing on the wider aspects of the maths curriculum, such as geometry, measurement, fractions and statistics. Children move through the concrete > pictorial> abstract approach using a range of practical and multi-sensory resources so that lessons are creative and absorbing. Half termly units build upon prior learning and enable consolidation and deepening of key concepts so that children can apply their learning in a range of contexts.

Intended Impact:

- The children will perceive maths as exciting, engaging and valuable, so that they become fluent and accurate with number facts and relationships, reason mathematically about their work.
- They become confident mathematicians who have the ability to solve problems.
- They make connections and apply mathematical knowledge both across maths lessons and the wider curriculum.

Year Group	Number, Place Value & Fluency	Addition & Subtraction	Multiplication & Division	Fractions	Measurement	Geometry: properties of shape	Statistics
Reception	To count objects, actions	To solve real world	To explore and		To compare length, weight,	To select, rotate and	
·	and sounds.	mathematical problems	represent evens		capacity.	manipulate shapes to	
Emerging		with numbers up to 5.	and odds, double			develop spatial reasoning	
	To develop fast		facts and how			skills.	
ELG	recognition of up to 3	To automatically recall	quantities can be				
	objects, without having to	number bonds for	distributed equally.			To compose and	
	count them individually	numbers 0–5 and some to				decompose shapes so	
	('subitising').	10.				that children recognise a shape can have other	
	To link the number	To automatically recall				shapes within it, just as	
	symbol (numeral) with its	number bonds to 5 and				numbers can.	
	cardinal number value.	some to 10, including				nambers cam	
		double facts.				To continue, copy and	
	To count beyond ten.					create repeating	
	· ·	To explore and represent				patterns.	
	To compare numbers and	patterns within numbers					
	explore the composition	up to 10.					
	of numbers to 10.						

							Abrase
	To subitise (recognise quantities without counting) up to 5						
	To compare quantities up to 10 in different contexts,						
	recognising when one						
	quantity is greater than,						
	less than or the same as						
	the other quantity.						
	To verbally count beyond						
	20, recognising the						
	pattern of the counting						
	system.						
	To have a deep						
	understanding of number						
	to 10, including the						
	composition of each number.						
	number.				Massura wida widar		
	1, 2, 3, 4, 5, 6, 7, 8, 9, 10				Measure, wide, wider, narrow, narrower,	2D shapes, rectangle,	
	one, two, three, four, five,				compare, long, longer,	square, triangle, circle,	
	six, seven, eight, nine, ten,		Daubla half tudas		longest, short, shorter,	characteristics, 3D	
	zero, count, subitise,	Add, plus, altogether,	Double, half, twice		shortest, length, weight,	shapes, cuboids, cubes, cone, spheres, curved,	
Reception Key	order, compare, forwards,	total, take away, minus,	as many, equal, unequal, share,		heavier, lighter, big, bigger,	straight, flat, over, under,	
Vocabulary	backwards, numerals,	number bonds, part,	group, odd, even,		biggest, full, empty, half,	between, around,	
	digit, one more, one less,	whole, digit,	difference		time, quicker, slower,	through, on, into, next to,	
	equal to, the same as,				earlier, later, first, next,	behind, beneath, order,	
	more than, greater than, less than, fewer than				today, yesterday,	repeat, patterns, on top	
	less than, lewer than				tomorrow, hour, minutes, seconds	of,	
Year One	Number Place Value	To compose numbers to	Problem solving	Recognising fractions	Comparing and Estimating	To recognise common 2-	
	To count (demonstrate	10 from 2 parts, and	To solve one-step	To recognise, find and	To compare, describe and	D and 3-D shapes	
Ready to progress	fluency) to and across	partition numbers to 10	problems involving	name a half as one of	solve practical problems for	presented in different	
criteria	100, forwards and	into parts, including	multiplication and	two equal parts of an	(measures of increasing	orientations and know	
Circeila	backwards starting with any number	recognising odd and even numbers.	division, by calculating the	object, shape or	complexity):	that rectangles, triangles, cuboids and pyramids are	
Deer verien	any number	numbers.	answer using	quantity (length)	 Lengths and heights (eg, long/short, 	not always similar to one	
Deepening	To count, read and write	To read, write and	concrete objects,	To recognise, find and	longer/shorter,	another.	
Understanding	numbers to 100 in	interpret equations	pictorial	name a quarter as	tall/short, double/half)		
	numerals: count in	containing addition,	representations and	one of four equal	, , , , , , , , , , , , , , , , , , , ,		



multiples of 2, 5 and 10s. (Demonstrate fluency)

To reason about the location of numbers to 20 within the linear number system, including comparing using <> =

Number Fluency
To develop fluency in
addition and subtraction
facts within 10.

To count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple and count forwards and backwards through the odd numbers.

When given a number, (consistently) identify one more and one less

Identifying, representing and estimating numbers
To identify and represent numbers using objects and pictorial representations (using increasingly complex representations) including the number line, and (consistently) use the language of equal to,

subtraction and equals symbols and relate additive expressions and equations to real life contexts.

Number Bonds
To represent and use
number bonds and
related subtraction facts
within 20 (and use these
to derive new unknown

facts)

Mental Calculation
To add and subtract onedigit and two-digit
numbers to 20, including
zero (mentally)

Written Methods
To read, write and
interpret mathematical
statements involving
addition (+), subtraction (-)
and equals (=) signs

Problem solving
To solve one-step (two-step) problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? - 9 (using a wider range of numbers)

arrays with the support of the teacher

Count in 2's, 5's and 10's from 0 to answer questions involving multiplication facts

Recall doubles and halves of numbers to 20

Solve 1-step problems involving multiplication and division, by calculating the answer by using concrete objects, pictorial representations and arrays parts of an object, shape or quantity (length)

 Mass/weight (eg, heavy/light, heavier than/lighter than)

- Capacity and volume (eg, full/empty, more than, less than, half, half full, quarter)
- Time (eg, quicker, slower, earlier, later)

To sequence events in chronological order using language (eg, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening)

Measuring and calculating To measure and begin to record the following:

- Lengths and heights
- Mass/weight
- Capacity and volume
- Time (hours, minutes, seconds)

To recognise and know the value of different denominations of coins and notes (solve problems of increasing complexity)

Telling the time

To tell the time to the hour and half past the hour and draw the hands on a clock face to show these times

To recognise and use language relating to dates, including days of the week, weeks, months and years

To recognise and name common 2D and 3D shapes (using increasingly sophisticated mathematical vocabulary) including:

- 2-D shapes (eg, rectangles (including squares), circles and triangles)
- 3-D shapes (eg, cuboids (including cubes), pyramids and spheres)

To compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.

Compare and sort shapes using one criterion

Reason about and solve more complex problems relating to shapes and their properties

Position, direction and movement

To describe position, direction and movement, including half, quarter and three-quarter turns.

Apply knowledge of position to problem solving across the curriculum

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Year One Key Vocabulary	more than, less than (fewer), most, least. Reading and writing numbers To read and write numbers from 1 to 20 in numerals and words Number Zero, one, two, three to twenty and beyond None Count (on/up/to/from/down) Before, after More, less, many, few, fewer, least, fewest, smallest, greater, lesser Equal to, the same as Odd, even Ones, tens Ten more/less Digit Numeral Figure(s)	Number bonds, number line Add, more, plus, make, sum, total, altogether Inverse Double, near double Half, halve Equals, is the same as (=) Difference between How many more to make? How many more is than? How much more is?	Count in twos, fives Count in tens (forwards from/backwards from) How many times? Lots of, groups of Once, twice, five times Multiple of, times, multiply,	Whole Equal parts, four equal parts One half, two halves A quarter, two quarters	Full, half full, empty Holds Container Weigh, weighs, balances Heavy, heavier, heaviest, light, lighter, lightest Scales Time Days of the week: Monday, Tuesday etc Seasons: Spring, Summer, Autumn, Winter Day, week, month, year, weekend Birthday, holiday Morning, afternoon, evening Today, yesterday,	Group, sort Cube, cuboid, pyramid, sphere, cone, cylinder, triangular prism circle, triangle, square, pentagon, hexagon, octagon Shape Flat, curved, straight, round Hollow, solid Corner (point, pointed) Face, side, edge Make, build, draw	
Voor True	Compare (In) order/a different order Size Value Between, halfway between Above, below Ten frame	How much more is? Subtract, take away, minus How many fewer is than? How much less is? Part whole model Part, whole Ten frame	multiply, multiply by Array, row Double, halve Share, share equally Group in pairs etc Equal groups of	quarters	tomorrow Before, after Hour, o'clock , half past Clock, watch, hands First, second, third etc Estimate Length, width, height, depth Metre, ruler, metre stick Money, coin, penny, pence, pound, price, cost, buy, sell, spend, spent, pay, change	Make, build, draw Position Over, under, underneath, above, below, top, bottom, side On, in, outside, inside, around, in front, behind Left, right, up, down, forwards, backwards, whole turn, half turn	To interpret and
Year Two	Number and Place Value To recognise the place	To add and subtract across 10	To recognise repeated addition	Recognising Fractions To recognise, find,	Comparing and Estimating To compare and order	To use precise language to describe the properties	To interpret and construct simple
	value of each digit in two-	33. 33. 23	contexts,	name and write	lengths, mass,	of 2D and 3D shapes, and	pictograms, tally
	digit numbers, and		representing them	fractions 1/3, 1/4, 2/4	volume/capacity and	compare shapes by	charts, block

Ready to progress criteria

Deepening Understanding

compose and decompose two-digit numbers using standard and nonstandard partitioning.

To reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10.

Number Fluency
To secure fluency in
addition and subtraction
facts within 10, through
continued practice.

To count in steps of 2,3,5 from zero and in tens from any number, forward or backward

Comparing Numbers
To compare and order
numbers from zero up to
100; use <,> and = signs

Identifying, representing and estimating numbers
To identify, represent and estimate numbers using different representations, including the number line

Reading & writing
Numbers
To read and write number
to at least 100 in numerals
and in words

To recognise the subtraction structure of 'difference' and answer questions of the form, "How many more...?"

To add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only 1s or only 10s to/from a two-digit number.

To add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any two-digit numbers.

Number Bonds
To recall and use addition
and subtraction facts to
20 fluently, and derive

to 100.

Mental Calculation

To add and subtract
numbers using concrete
objects, pictorial

and use related facts up

mentally, including:A two-digit number and ones

representations, and

- A two-digit number and tens
- Two, two-digit numbers
- Adding three onedigit numbers

with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.

To relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotative division)

Multiplication and division facts
To count in steps of 2,3 and 5 from zero, and in tens from any number, forward or backward

To recall and use multiplication and division facts for the 2,5,10 multiplication tables, including recognising odd and even numbers.

Mental Calculation
To show that
multiplication of
two numbers can
be done in any
order

and 3/4 of a length, shape, set of objects or quantity

Equivalence
To write simple fractions eg $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$

record the results using >, < and =

Measuring and Calculating
To choose and use the
appropriate standard units
to estimate and measure
length/height in any
direction (m/cm); mass
(kg/g); temperature (°C),
capacity (litres/ml) to the
nearest appropriate unit,
using rulers, scales,
thermometers and
measuring vessels

Money

To 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

To solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

<u>Telling the Time</u>
To compare and sequence intervals of time

To tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a reasoning about similarities and differences in properties.

Identifying shapes and their properties
To identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line

To identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces

To identify 2-D shapes on the surface of 3-D shapes (for example, a circle on a cylinder and a triangle on a pyramid)

To compare and sort common 2-D and 3-D shapes and everyday objects

Position, direction and movement
To 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

diagrams and simple tables

To ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity

To ask and answer questions about totalling and comparing categorical data

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	<u>Understanding Place</u>		(commutative) and		clock face to show these	(clockwise and anti-	
	<u>Value</u>	To show that addition of	division of one		times.	clockwise)	
	To recognise the place	two numbers can be done	number by another				
	value of each digit in a	in any order	cannot		Know the number of	<u>Pattern</u>	
	two-digit number (tens,	(commutative) and			minutes in an hour and the	To order and arrange	
	ones)	subtraction of one	Written Calculation		number of hours in a day.	combinations of	
		number from another	To calculate			mathematical objects in	
	Problem Solving	number cannot	mathematical			patterns and sequences	
	To use place value and		statements for				
	number facts to solve	Inverse Operations,	multiplication and				
	problems	Estimating and Checking	division within the				
		Answers	multiplication				
		To recognise and use the	tables and write				
		inverse relationships	them using the				
		between addition and	multiplication (x),				
		subtraction and use this	division (÷) and				
		to check calculations and	equals (=) signs.				
		solve missing number	5 11 61:				
		problems.	Problem Solving				
			To solve problems				
		Problem Solving	involving				
		To solve problems with	multiplication and				
		addition and subtraction:	division, using				
		Using concrete	materials, arrays,				
		objects and pictorial	repeated addition,				
		representations,	mental methods,				
		including those	and multiplication				
		involving numbers,	and division facts,				
		quantities and	including problems				
		measures	in contexts				
		Applying their					
		increasing					
		knowledge of mental					
		and written methods					
			Review Year 1				Axis
	Review Year 1 vocabulary		vocabulary			,	Compare
	Numbers to 100		Repeated addition			Review Year 1 vocabulary	total
Year Two Key	Partition, recombine,	Review Year 1 vocabulary	Divide, divided by,	Review Year 1	Review Year 1 vocabulary	Symmetry	Tally
Vocabulary	Hundred more/less	Bar model	left, leftover	vocabulary]	Line of symmetry	Graph
,	,					symmetrical	Venn diagram
							Block diagram
							Represent
							Interpret

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			Most/least
			popular

National Curriculum

The National Curriculum for Maths aims to ensure that all pupils:

- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Assessment

Teachers make regular on-going assessments against the learning intention.

Through use of the Rekenrek programme, regular number fluency assessments are made in order to check children's number acquisition and inform next steps.