Maths

Parent Workshop

Denmead Infant School

We Love To Learn

Numberless

If all the numbers in the world were rubbed out, removed, taken away:
I wouldn't know how old I was,
I wouldn't know the time of day,
I wouldn't know which bus to catch,
I wouldn't know the number of goals I had scored,
I wouldn't know how many scoops of ice-cream I had, I wouldn't know the page on my reading book,
I wouldn't know how tall I was,
I wouldn't know how much I weighed,
I wouldn't know how many sides there are in a hexagon,
I wouldn't know how many days are in the month,
I wouldn't be able to work my calculator.
And I wouldn't be able to play hide-and-seek! But I would know
As far as my mum was concerned,
I was still her NUMBER ONE!
Ian Souter

What are your memories of Maths from school?

How do you feel about Maths now?

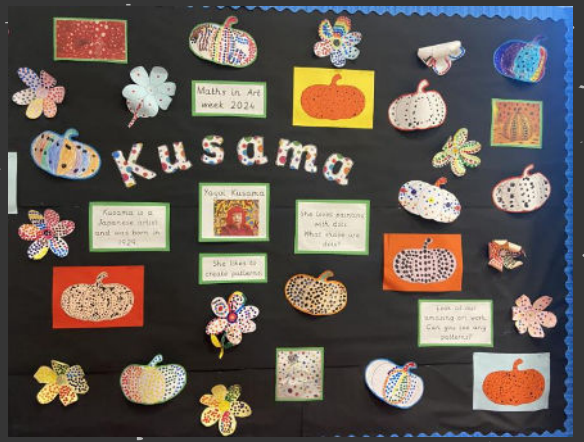
MISTAKES

ALLOW

THINKING TO

HAPPEN

Maths at Denmead Infants



Outline

- Curriculum aims
- How we teach Maths
- How you can support your child

Reception: Early Learning Goals

Mathematics Number ELG

Children at the expected level of development will:

- Have a deep understanding of number to 10, including the composition of each number;
- Subitise (recognise quantities without counting) up to 5;
- Automatically recall (without reference to rhymes, counting or other aids) number
- bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

Numerical Patterns ELG

Children at the expected level of development will:

- Verbally count beyond 20, recognising the pattern of the counting system;
- Compare quantities up to 10 in different contexts, recognising when one quantity
- is greater than, less than or the same as the other quantity; 28
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Year 1

Key Reference

Black Text	National curriculum statements	Milestone 1
Red Text	Hampshire additional guidance	Milestone 2
Orange Text	DfE Ready to progress criteria	Milestone 3

Problem solving should be a focus in every milestone

Year 1	Number and place value	Addition and subtraction	Multiplication and division	Fractions	Measurement	Geometry	
						Properties of shapes	Position and direction
Year 1: Milestone 3 (incl Milestones 1 & 2)	Pupils should be taught to: ▪ count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number ▪ count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens ▪ given a number, identify one more and one less ▪ identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least ▪ read and write numbers from 1 to 20 in numerals and words. 1NPV-1 1NPV-2 1NF-2	Pupils should be taught to: ▪ read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs ▪ represent and use number bonds and related subtraction facts within 20 ▪ add and subtract one-digit and two-digit numbers to 20, including zero ▪ solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = § - 9. (Repeat from Phase 1,2 – deeper) 1NF–1 1AS-1 1AS-2	Pupils should be taught to: • count reliably in two's • share objects equally by counting how many in each group ▪ solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	Pupils should be taught to: ▪ recognise, find and name a half as one of two equal parts of an object, shape or quantity ▪ recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. Repeat from Phase 1 and 2-deeper	Pupils should be taught to: ▪ compare, describe and solve practical problems for: ▪ lengths and heights (eg. long/short, longer/shorter, tall/short, double/half) ▪ mass or weight (e.g. heavy/light, heavier than, lighter than) ▪ capacity/volume (full/empty, more than, less than, quarter) ▪ time (quicker, slower, earlier, later) ▪ measure and begin to record the following: ▪ lengths and heights ▪ mass/weight ▪ capacity and volume ▪ time (hours, minutes, seconds) ▪ recognise and know the value of different denominations of coins and notes ▪ sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening ▪ recognise and use language relating to dates, including days of the week, weeks, months and years ▪ tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	Pupils should be taught to: recognise and name common 2-D shapes, including, squares, circles, rectangles and triangles. ▪ recognise and name 3-D shapes including cuboids, pyramids and spheres. 1G-1 1G-2	Pupils should be taught to: ▪ describe position, directions and movements, including half, quarter and three-quarter turns

Year 2

Hampshire County Council

Hampshire Mathematics Team Assessment Model

Version 5: May 2021

Key Reference

Black Text	National curriculum statements	Milestone 1
Red Text	Hampshire additional guidance	Milestone 2
Orange Text	DfE Ready to progress criteria	Milestone 3

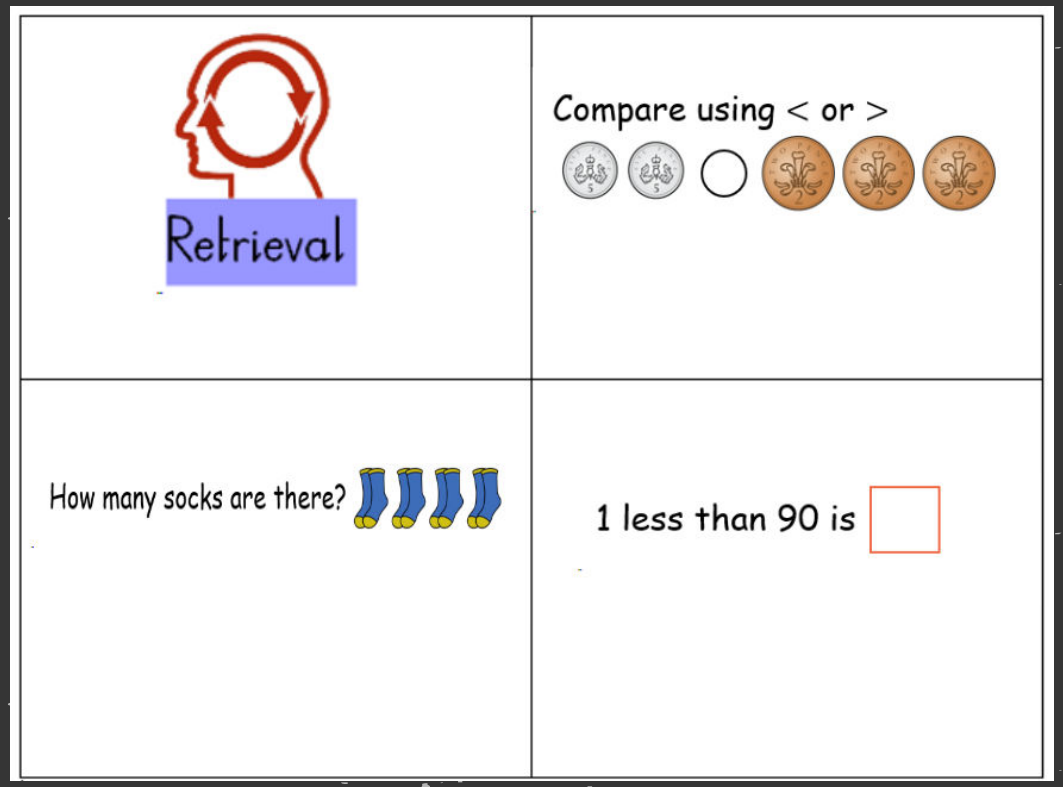
Problem solving should be a focus in every milestone

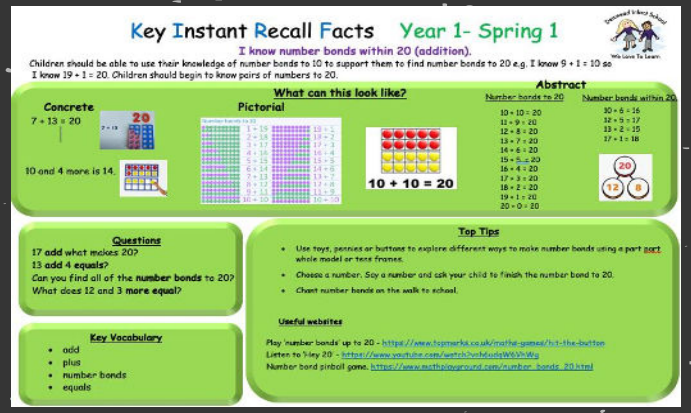
Year 2	Number and place value	Addition and subtraction	Multiplication and division	Fractions	Measurement	Geometry	
						Properties of shape	Position and direction
Year 2: Milestone 3 (Incl Milestones 1 & 2)	Pupils should be taught to: ▪ count in steps of 2, 3, and 5 from 0 and in tens from any number, forward or backward • recognise the place value of each digit in a two-digit number (tens, ones) • identify, represent and estimate numbers using different representations, including the number line • *compare and order numbers from 0 up to 100; use <, > and = signs* • read and write numbers to at least 100 in numerals and in words • use place value and number facts to solve problems. 2NPV-1 2NPV-2	Pupils should be taught to: • solve problems with addition and subtraction • using concrete objects and pictorial representations, including those involving numbers, quantities and measures • applying their increasing knowledge of mental and written methods • recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • add and subtract numbers using concrete objects, pictorial representations, and mentally, including: • a two-digit number and ones • a two-digit number and tens • two two-digit numbers ▪ adding three one-digit numbers ▪ show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. **Statistics** Statistics: interpret and construct simple pictograms, tally charts, clock diagrams and simple tables ▪ ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity Statistics: ask and answer questions about totalling and comparing categorical data 2NF-1 2AS-1 2AS-2 2AS-3 2AS-4	Pupils should be taught to: • recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers ▪ calculate mathematical statements for multiplication & division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot ▪ solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. 2MD-1 2MD-2	Pupils should be taught to: • recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or ▪ write simple fractions eg. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	Pupils should be taught to: ▪ choose and use 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 ▪ compare and order lengths, mass, volume/capacity and record the results using >, < and = ▪ 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 • solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change ▪ compare and sequence intervals of time ▪ tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. • know the number of minutes in an hour and the number of hours in a day	Pupils should be taught to: • identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line • identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces • identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid • compare and sort common 2-D and 3-D shapes and everday objects. 2G-1	Pupils should be taught to: • order and arrange combinations of mathematical objects in patterns use mathematical vocabulary to describe position, direction and movement, including movement in a straight line • and distinguish between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)

What does a Maths lesson look like?

1

Retrieval or key instant recall facts.





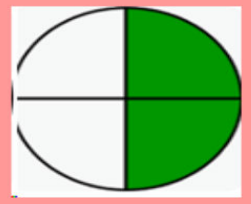
What does a Maths lesson look like?

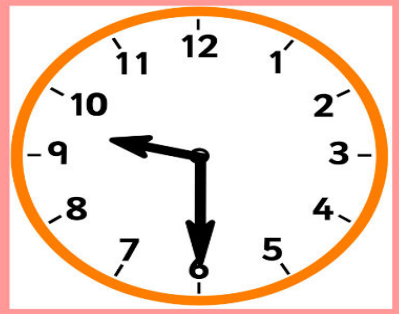
2

New learning is introduced using guided practice.

half past

60 mins	
30 mins	30 mins



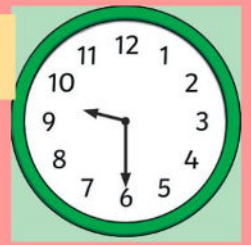


Where is the shorter hand for half past?

Where is the longer hand for half past?

Read

I do



The time is half past ____

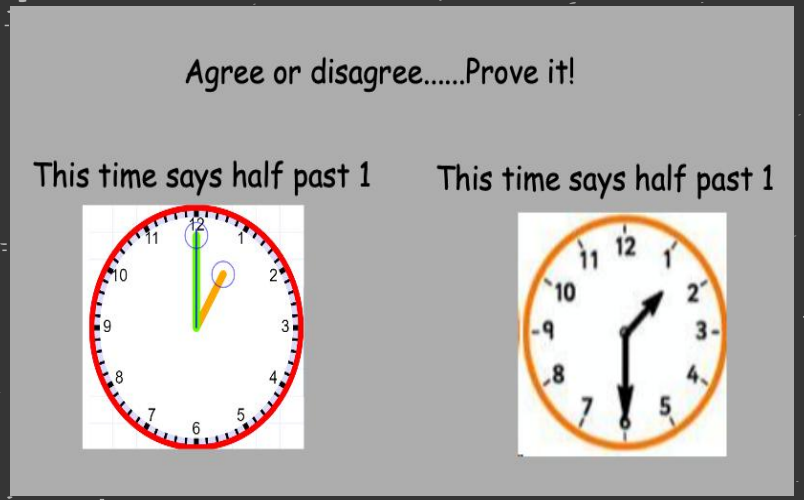
We do

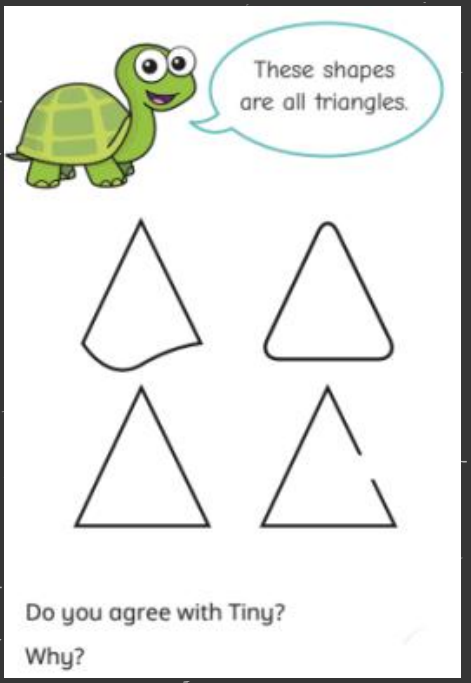
The time is half past ____

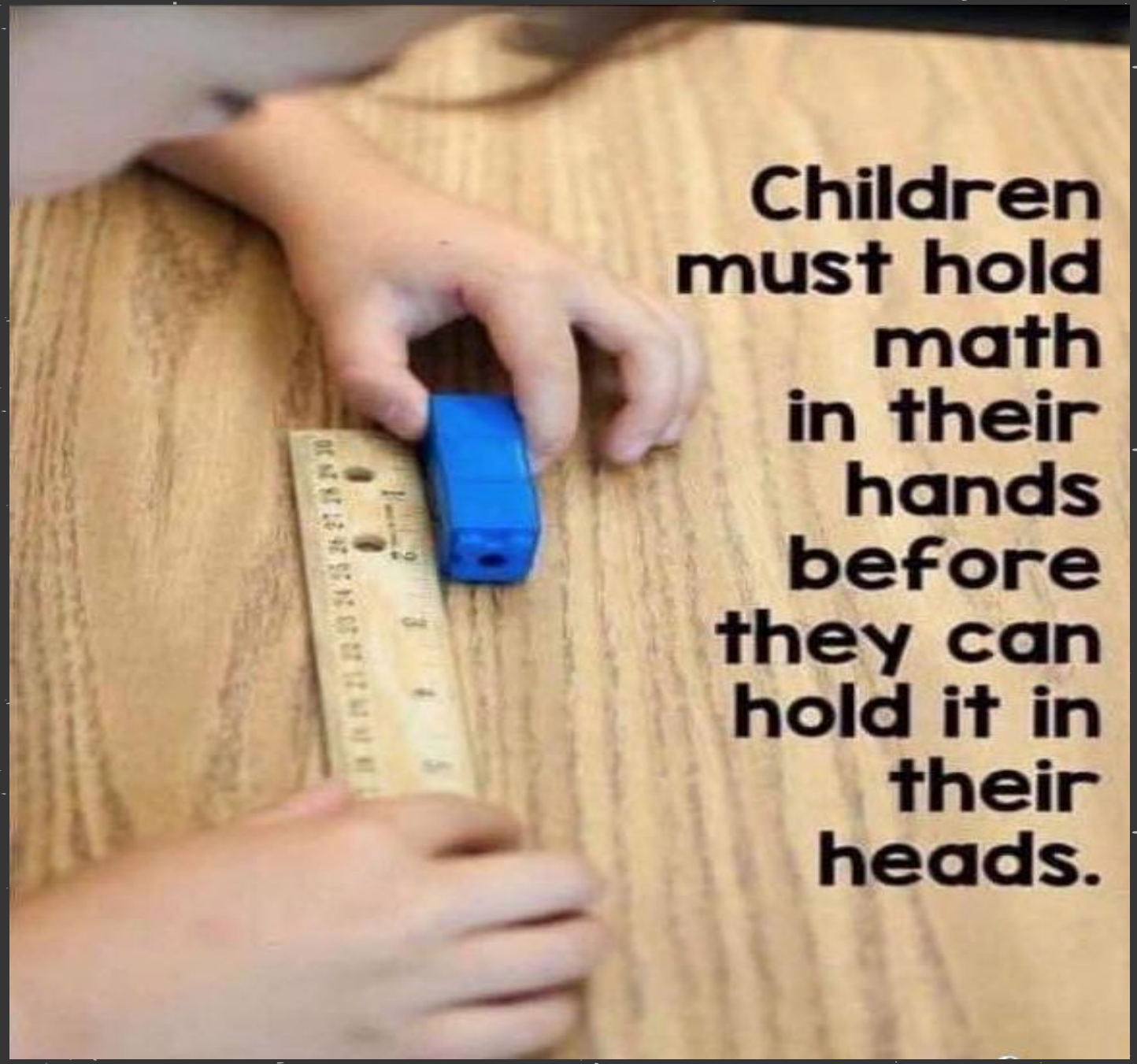
What does a Maths lesson look like?

3 Independent application of new skills.

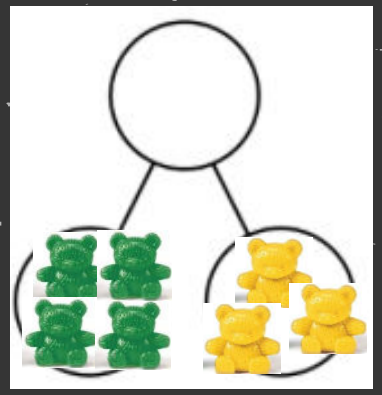
4 Reasoning and Problem solving opportunities.



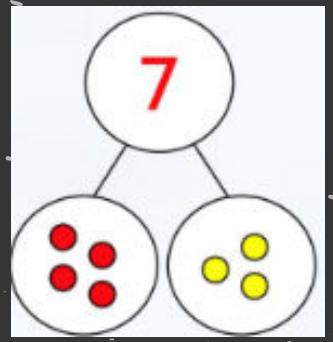



Children
must hold
math
in their
hands
before
they can
hold it in
their
heads.

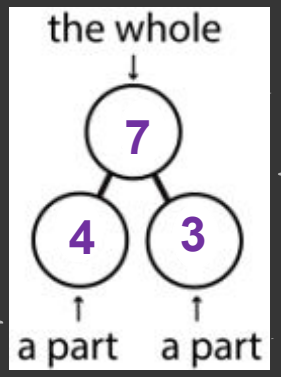
Concrete



Pictorial

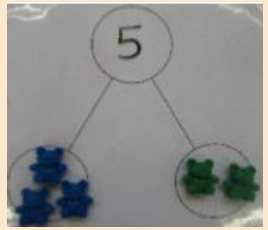
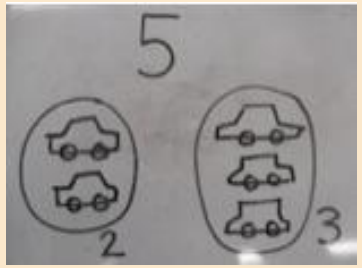
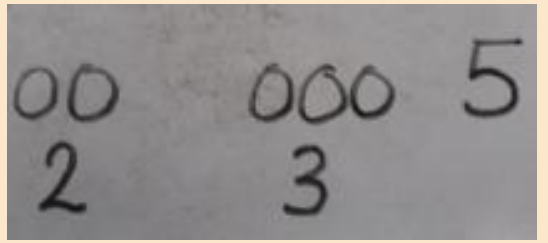
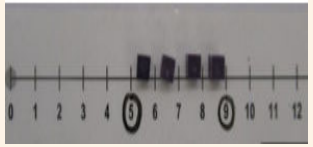
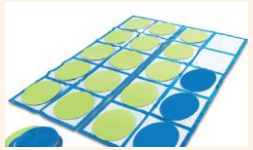
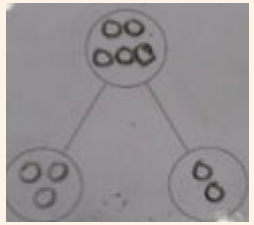
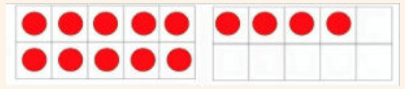
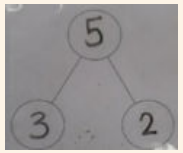
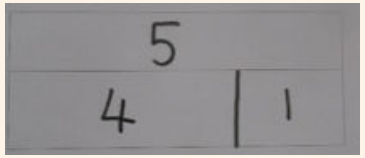
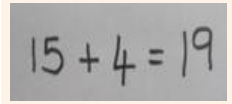
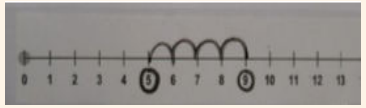
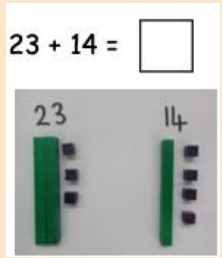
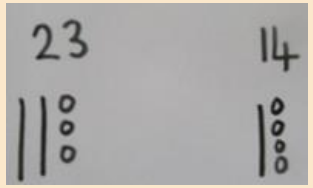
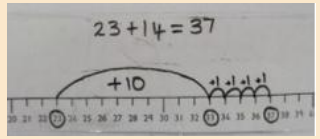
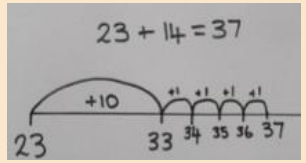


Abstract



$4 + 3 =$

What does the progression look like?

	Concrete	Pictorial	Abstract
Reception	  		
Year 1	   	 	   
Year 2	 		 

Policies

Our calculation policies can be found on the website and will show you the methods and resources used to teach the four basic operations.

Denmead Infant School Calculation Policy

Part One – Addition & Subtraction

Denmead Infant School

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Denmead Infant School Calculation Policy

Part Two – Multiplication & Division

Denmead Infant School

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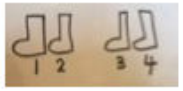
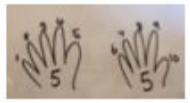
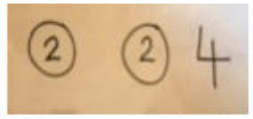
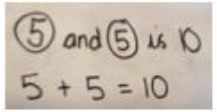
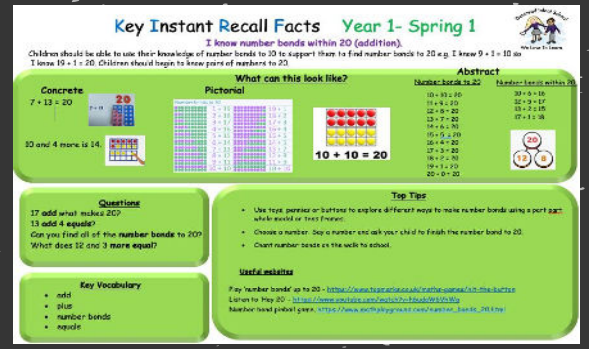
Progression in Multiplication & Division

Odd & Even		Odd and Even numbers will be taught and revisited in all years R-2.		
Year R		**Concrete resources**	**Pictorial image**	**Abstract recording**
	Using quantities and objects to solve problems, including: • doubling	Multiplication and division learning in Year R will be through real life contexts, role play and stories. Children will also be exposed to counting in 2s, 5s and 10s towards the end of the year. *'Sam and Jess both have wellies on today. How many wellies can we see?'*  *'We have 5 fingers on one hand. How many fingers do we have on 2 hands?'*  As well looking at the 'real' problems children will be encouraged to use concrete resources such as Numicon and counting objects to act out the problem.	 Children are encouraged to represent the problem in a way that is meaningful to them and as such each child's drawing may look different. 	 Children may use numbers to record in the abstract. If they know symbols such as + they may choose to include these as well. 

How can you support your child?

- Support your child learning their Key Instant Recall Facts (KIRFS) each half term.
- Encourage your child to use their 'Maths eyes' to see the world around them.
- Play games and card games.
- Take a copy of ideas to support your child with Maths around a room.



Alternatives to maths resources

Websites

Websites can be a fun way of helping children to practise a concept that has been taught in school.

Topmarks.co.uk
Ictgames.com
Mathszone.co.uk
BBC Bitesize: Cool Maths games to play online.
Nrich.maths.org- There is a useful parent section.
Mathsframe.co.uk
Numberblocks - Mathmatical cartoons.

Thank You!

Please share any feedback on the sticky notes, including any other areas of Maths you would like me to focus on in future workshops.

Mrs Archer Maths Leader