Shelton Infant School

Calculation Policy

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Maths at Shelton Infant School

At Shelton Infant School we believe in building firm foundations in maths to enable children to grasp more complex concepts later in life. We teach using the concrete, pictorial and abstract approach and believe this ensures children have a clearer understanding of what they are learning and the meaning behind the numbers. It is important that **all** children are exposed to the concrete stage first before tackling new concepts.

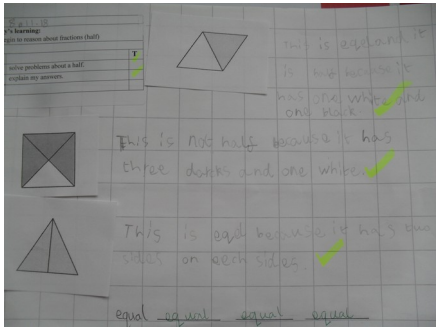
The pictorial stage supports children in developing their use of informal written methods and also helps them to reason about their choices. All children are exposed to problem solving activities in order to develop reasoning skills and to further develop their understanding mathematical relationships. We aim to foster a love for challenge in maths and to develop resilient learners who are willing to try, even when they get something wrong.

We continue to differentiate to meet the needs of all pupils within maths lessons but also believe in mastery and challenge for all pupils. All abilities of pupils should be given the same opportunities to embed key concepts and to attempt a range of maths challenges and mastery tasks.

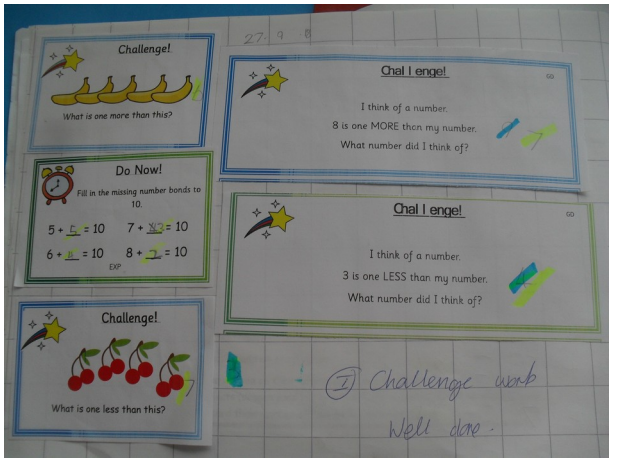
Number fluency and rapid recall continue to be a focus. It is important that our children develop rapid recall of concepts such as one, more or less, doubles, halves, number bonds and times tables. However it is always important to begin with the concrete stage even when building these mental maths skills.

Maths - [illegible]portant to us?

Building firm foundations in the Early Years through exploration and play.

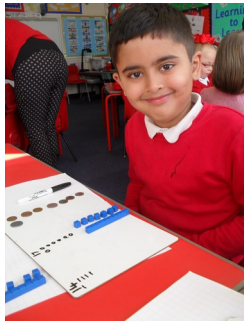


Concepts covered in greater depth - ensure understanding is embedded before moving on.



Regular opportunities to reason about choices and develop mathematical language.

Recap cards to build on fluency.
Challenge cards - challenge for all pupils.



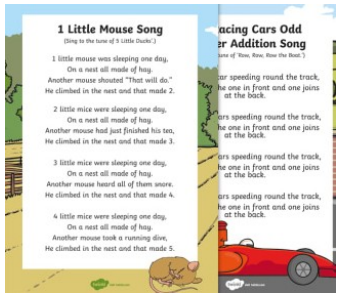
Hands on maths - practical and engaging.
Always begin with concrete.

Shelton Infant School

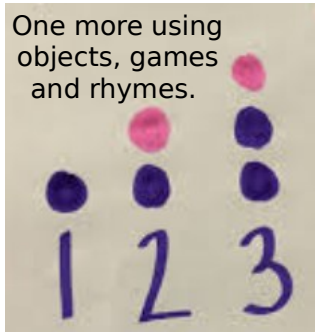
NAME	Mathematics Spring Term 1 Year 2 Working at the expected standard			
Count in steps of 3 from zero forwards and backwards (NF)				
Count in steps of 3 from any number forwards (NF)				
Compare numbers from 0-100 using the <> =signs (including length, mass and capacity)				
Write the tens numbers to 100 as words (NF)				
Write numerals to 100 (NF)				
Know number bonds to 100 (NF)				
Use the inverse of addition and subtraction to solve missing number problems				
Recall the 2 times table				
Recall the 5 times table				
Recall the 10 times table				
Solve and correctly write multiplication statements (include arrays)				
Solve and correctly write division statements				
Recognise odd and even numbers				
Recognise, find, name and write fractions 1/3, 2/4, ¾ of a set of a length, shape and amount				
Find a fraction of a number. (1/3, ¼, 2/4 or ¾)				
Read scales which count in 1s, 2s, 5s, 10s				
Solve add and subtract money problems including giving change				
Identify, describe and sort 3D shapes, including number of faces, vertices and faces				
Use Mathematical vocabulary to describe position, direction and movement (quarter, half and three quarter turns, clockwise and anticlockwise)				
Ask and answer questions about data e.g. pictograms, tally charts, block diagrams and simple tables				
Working at greater depth within the standard				
Recall some of the 3 times table				
Write 3 digit numbers in numerals				
Write 3 digit numbers as words				
Read scales where not all the numbers are given. (Do in between points)				
Recognise the relationships between addition and subtraction and rewrite addition statements as simplified multiplication statements				

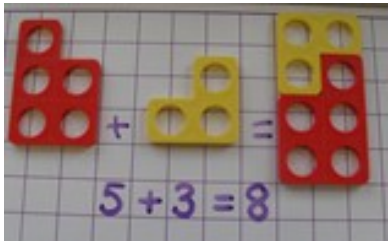
Teachers to take ownership over progression of maths skills, planning and assessment.
Quality first teaching.

Progression and Methods for Teaching Addition

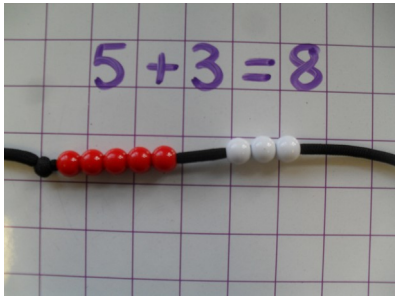


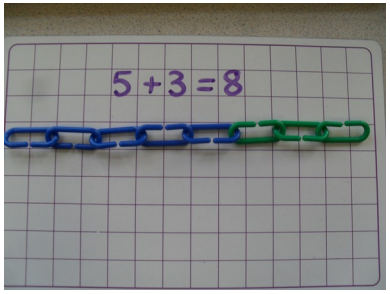
Songs and rhymes focusing on counting forwards.

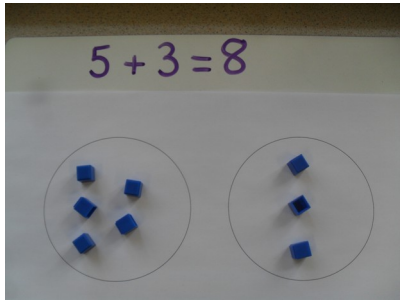


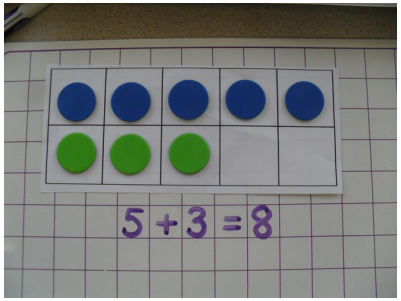


Combining Numicon pieces.

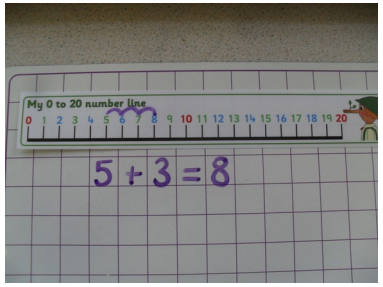




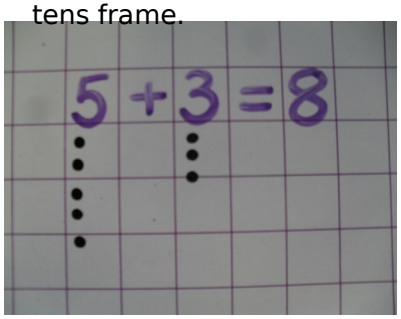




Using bead strings and objects. Lining up objects, moving to count and grouping objects together to find a total.



Counting on using a number line or 100 square.

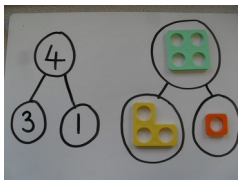


Using ‘ones’ jottings.

Exploring part whole method and bar modelling.

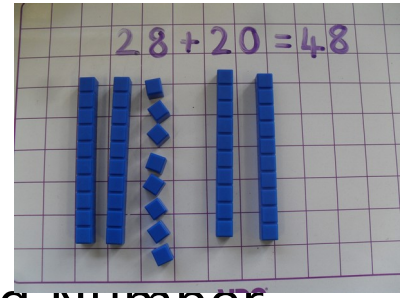
Using a tens frame.

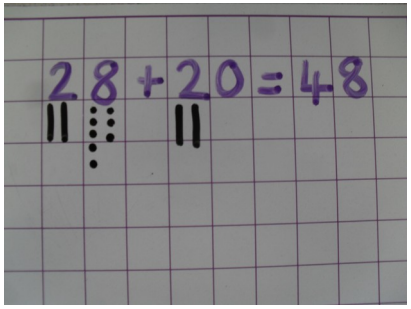
8	
5	3



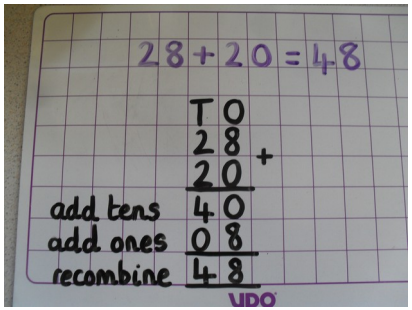
Progression and Methods for Teaching Addition - Continued

Using Base 10



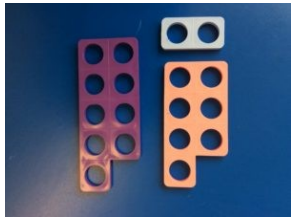


Using Base 10 jottings.

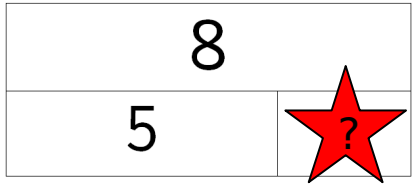


Expanded column addition - Year 2 only

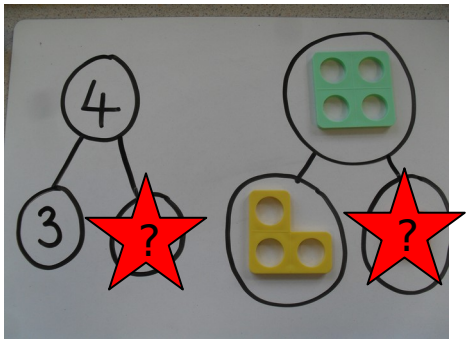
Missing Number



7 and ? = 9
Using Numicon shapes.

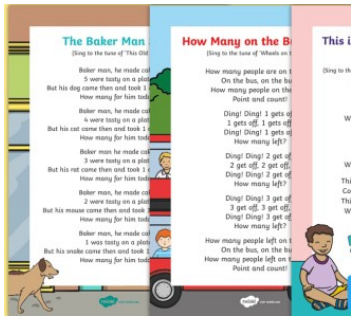


Explore using Bar Modelling and Part Whole Model.

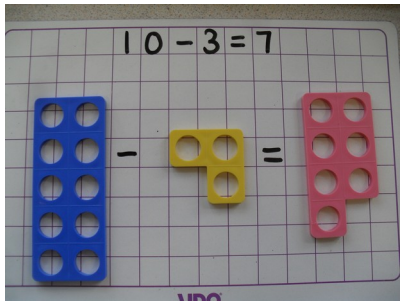


Counting on or back in ones and tens.

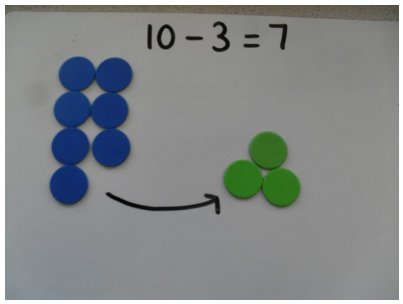
Progression and Methods for Teaching Subtraction

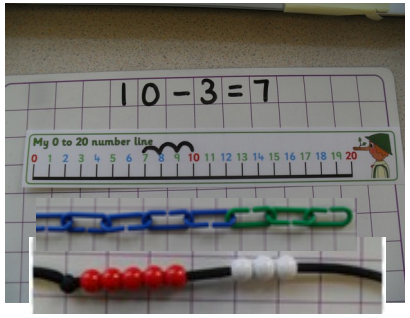


Songs and rhymes.

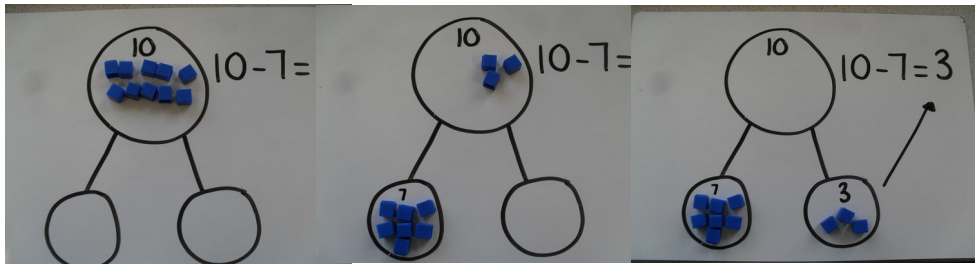


Using Numicon shapes.

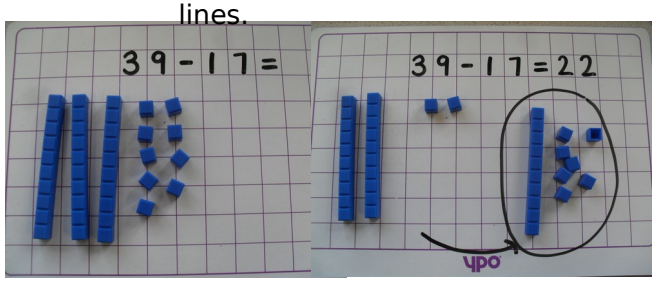




Using objects, counters, bead strings and number lines.

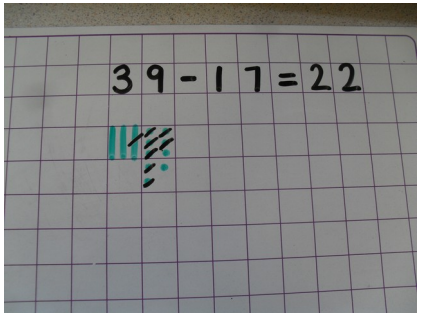


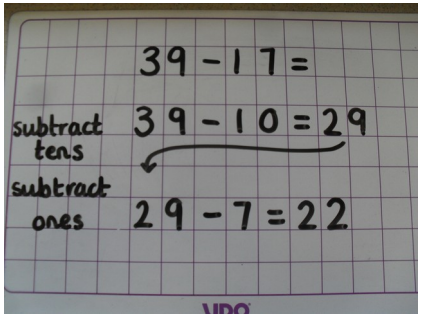
Using the Part Whole method



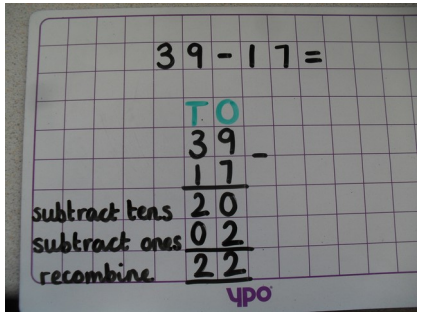
Using Base 10

Using Base 10 jottings.



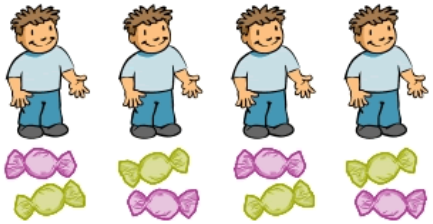


Partitioning.

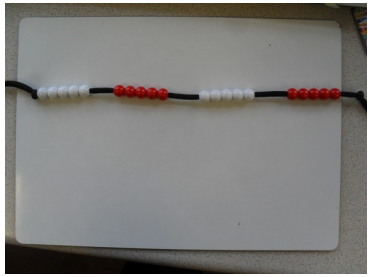


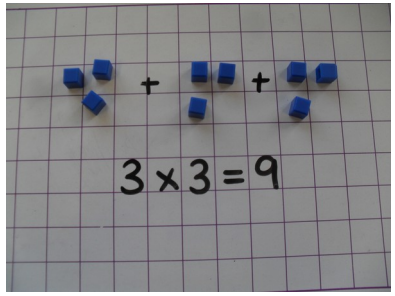
Expanded column subtraction. Year 2 only.

Progression and Methods for Teaching Multiplication

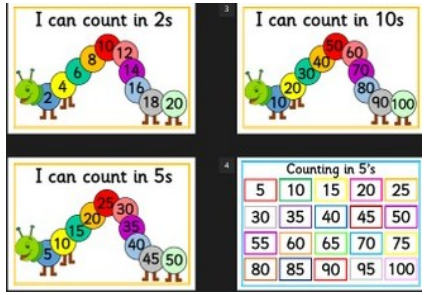


Practical multiplication - We all have 2 sweets each. How many do we have altogether?

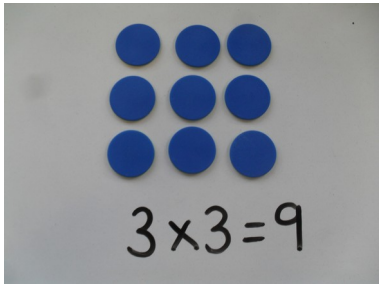


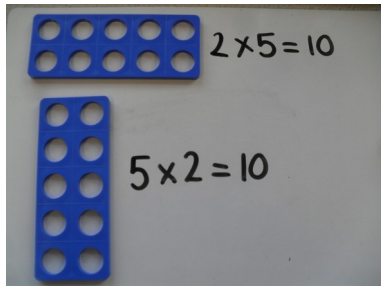


Repeated addition and grouping

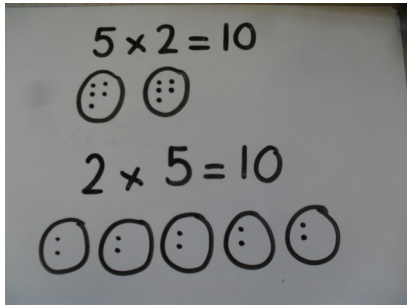


Counting in 2s, 5s and 10s





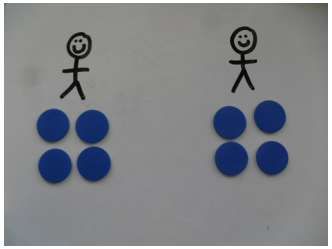
Arrays

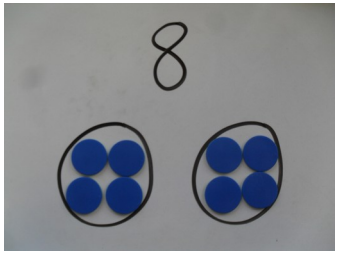


Circle and spots jottings

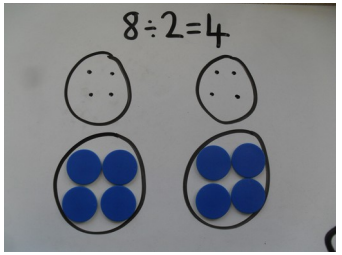
Progression and Methods for Teaching Division

Practical division - How many do we get each?





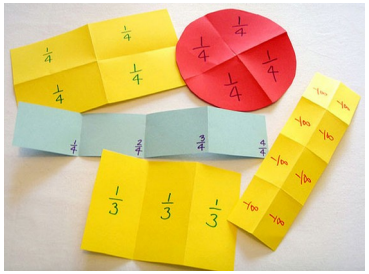
Sharing objects into equal groups.



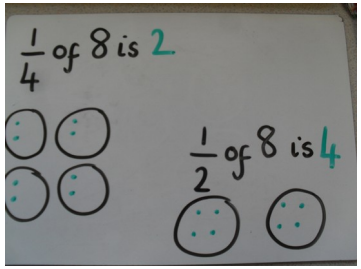
Circle and dots jottings.
Sharing into equal groups.

Progression and Methods for Teaching Fractions

Discussing fractions through play and practical contexts.



Fractions of shapes



Circle and dots jottings.
Finding the fraction of a number.
The denominator tells us how many circles to draw and the numerator tells us how many groups to look in.

Vocabulary

Addition

add
addition
total
more than
count on
plus
increase
greater than

Subtraction

take away
subtraction
subtract
tens
ones
hundreds
symbol
count back
fewer
decrease
less than

Multiplication

multiply
multiplication
times
lots of
count in ....
array
repeated addition
times tables
groups of

Division and Fractions

divide
divison
share/sharing
equal
fair
the same
remainder
whole
numerator
denominator
halves/halving
quarters
thirds
equivalent

equal to, equals, calculation, column, inverse, symbol, ones, tens, hundreds