

Mental Fluency is key to success
in the new curriculum.

There is so much more than just
holding numbers in your head.

New 2014 SATS

- New Curriculum: Headlines
- **KS1**
- Paper 1 – Arithmetic 15 marks in 15 minutes
- Paper 2 – Mathematical fluency, solving problems and reasoning 35 marks in 35 minutes
- **Weighting of content domains**
- Number – 65-75%
- Measurement, geometry and statistics – 25-35%

Counting in new curriculum

Reception: Counts objects to 10 and beyond. Counts out 6 objects from a larger group.

At Yr 1: Children are expected to count, read and write numbers up to and across the 100s boundary

At Yr 2: Count in steps of 2, 3 5 or 10 from any number forwards or backwards.

The gaps between those children entering school having had rich experiences of maths at home and those who have had very little is vast. Increasingly rarely, do pupils seem to play with dice, cards, board games or dominoes. Neither do they spend so much time singing counting rhymes, using their very own counting environment; their fingers. Try asking your reception child or Year one child to show you 7 on their fingers – Do they have a benchmark of 5 to find 7?

Time for a game

“Say what you see”

Development of children's mental fluency. $6 + 5 =$

Phase 1 - Counting strategies – Uses objects. Counts out 5 beads, then 6 beads, counts them all.

Phase 2 - Uses known facts. I know that $5 + 5 = 10$, so $5 + 6$ must be 1 more than 10.

Phase 3 - $5 + 6 = 11$ Knows it fast and accurate.

How do we develop these skills?
To be “nimble with number”.

Dice games are vital. Played regularly to develop automaticity of dot patterns and number bonds. Move on to 2 dice quickly. Develops children’s ability to “bank” one number and count on.

Domino games.

Card games.

In school - using 10s frames.

The story of five



$$0 + 5 = 5$$



$$1 + 4 = 5$$



$$2 + 3 = 5$$



$$3 + 2 = 5$$



$$4 + 1 = 5$$

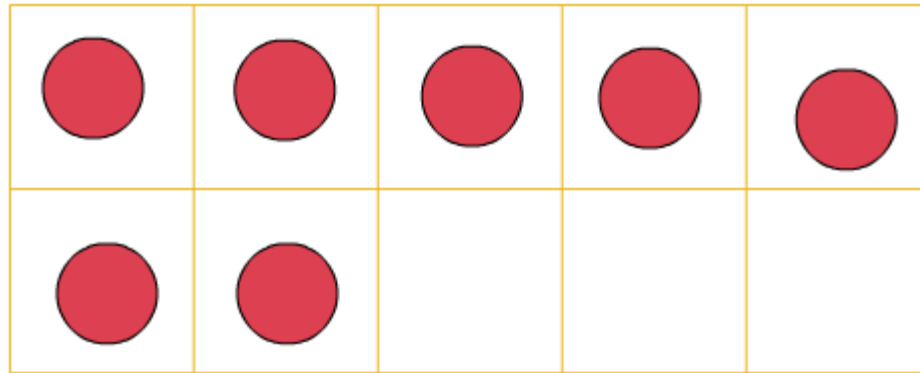


$$1 + 2 + 2 = 5$$



$$1 + 1 + 1 + 1 + 1 = 5$$

Say what you see



I see *four* and
three, *four* and
three is *seven*

I see ... and ...,
... and ... is
seven

Sum combinations.

My tens frame has 9 on it what could the mystery sum be?

Dot card ideas

- Counter match – select the matching plate
- Make the pattern – show a plate and they make it (could be extended into one more, one less)
- Match the pattern – show a pattern and they hold up the corresponding digit card or vice versa
- Different pattern – they represent the same number but in a different arrangement
- Odd one out – which pattern does not show the same number
- Trains – order patterns (1 to 10 etc)
- Concentration – 5 x 4 array of dot patterns place face down, children have to find pairs that are the same number
- Highest wins! – comparing dot patterns, highest number wins
- Target number – teacher holds a pattern and they have to find two plates which equal the target plate
- Snap! – different patterns but same value
- I wish ... - hold a pattern and wish for another number, children have to tell you how to create your wished for number from your original
- Make Ten – show one pattern, children have to hold up the complement to 10.

The Language of Maths – Maths uses familiar language but in an unfamiliar context.

Children need explicit teaching of the language of addition and subtraction

How many more? -

What is the difference?

How many less?

How many fewer?

Speaking frame

- Is less than (not as much as, fewer than)
- is greater than(more than)
- is equal to (the same as)

Make 21.

Roll 5 dice

Which of the the numbers from 1 to 21 can you make using the numbers shown?

