

**Maths**

Year 2  
Calculation

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# Promoting positive messages about maths

- Encouraging discussion of methods
- Year 2 encourage using numicon, tens and ones practically and then move onto drawing tens and ones to help explain their methods.
- We do not move onto formal column methods until year 3, as we want children to have a very strong basis in number, recall of basic facts and developing their times tables/division skills.



# Drawing tens and ones (Addition)

Children can represent calculations by drawing tens and ones. For example:

$$23+16$$



Count up the ones:  $3+6=9$

Count up the tens:  $20+10=30$

Combine them for the answer:  $30+9=39$

Please note: Important for future learning that they count the ones first

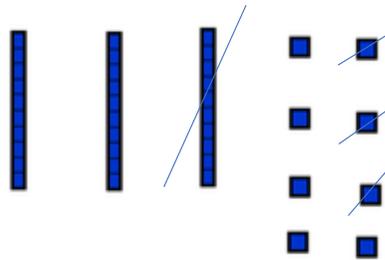
# Drawing tens and ones (Subtraction)



$$38 - 13$$

Draw the 38, then cross out 3 ones and 1 ten.

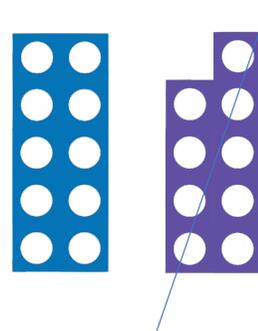
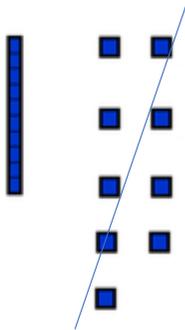
Leaves you with 25



The majority of children draw this calculation at the end of year 2.

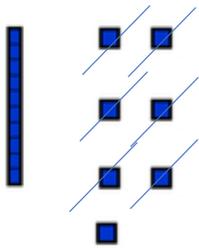
(A small number can calculate this example in their heads and explain that they did  $8-3=5$ , and  $30-10=20$ , so the answer is 25.)

$$19 - 9 =$$



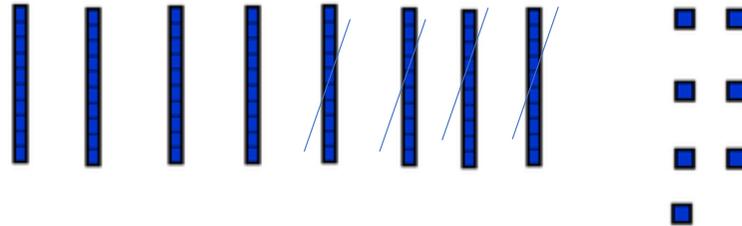
Children observe that there is 1 ten and 9 ones, so subtracting 9 ones will leave 1 ten. Some will solve with tens and ones, and others visualise the numicon pieces in their head (on the right). Other examples: 13-3, 15-5, 23-3.

$$17 - 6 =$$



Children observe that there is 1 ten and 7 ones, so subtracting 6 ones will leave 11.

$$87 - 40$$



- Children draw 87 (8 tens and 7 ones), then cross out 4 tens.

$$5 - 2 = ?$$



- Some children will draw the ones and cross them out
- Others will count back in their head
- By the end of the year, we expect them to recall differences for single digit subtractions or by using the related addition fact 3+2 is 5
- Other versions of this question are  $\square + 4 = 6$  or  $7 - \square = 5$

$$7+2+3$$



- Children are expected to recall that addition (and multiplication) can be done in any order.
- They should also look for doubles, or pairs to ten. Above  $7+3=10$ , then add two more, gives the answer of 12.
- Other examples:  $6+6+2$  (use double 6 add 2)

# Doubles and Halves

- By the end of year 2, children should recall doubles and halves fluently to 20

Double 6 = 12 so Half of 12 = 6

Double 9 = 18 so Half of 18 = 9

- We teach these facts together as they are connected as they are just opposites.
- Children may then go onto halve multiples of 10 e.g. half of 80 is 40, or find half of two digit even numbers e.g. Half of 84 = 42

# Multiplication

- A)  $8 \times 10$
- B)  $3 \times 3$
- C)  $0 \times 2$
- D)  $5 \times 7$

- Children recall tables facts for 2,5,10 times tables, and some have gone further to count in threes.
- Anything multiplied by zero is zero, e.g zero lots of two biscuits equals no biscuits!
- Children recall that question D can be done as 7 lots of 5

Drawing an arrow and saying  
How many lots of 5 are in 15

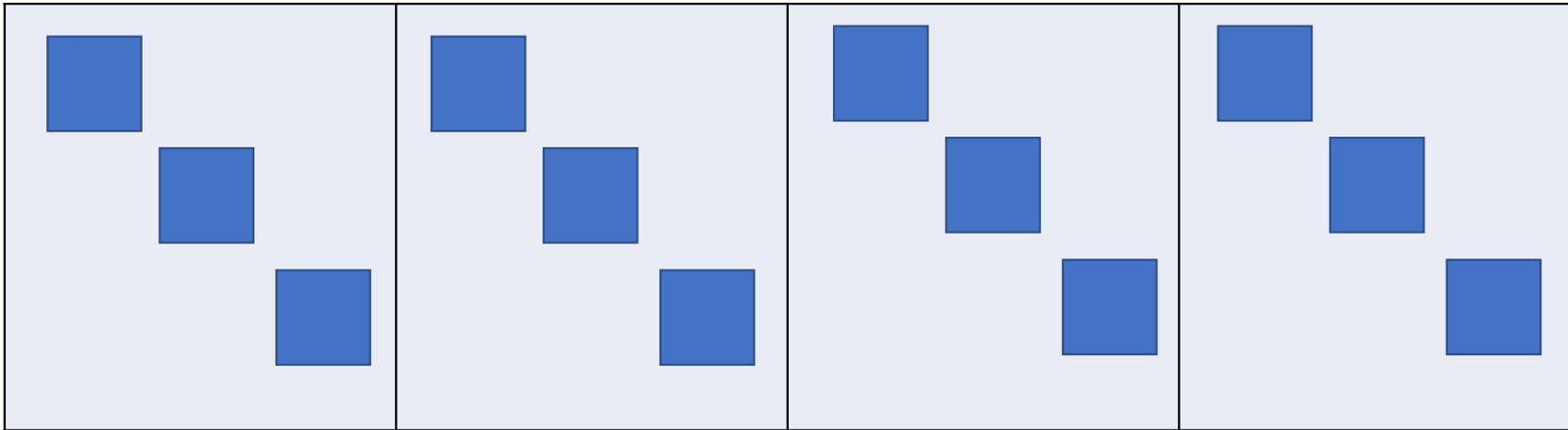
e.g.  $15 \div 5 = 3$



At this stage, division is linked to their times tables, and mostly consists of dividing by 2,3,5,10

$$\frac{1}{4} \text{ of } 12 = 3$$

Children share 12 between 4 boxes



We can then say that  $\frac{1}{4}$  of 12 = 3, so  $\frac{3}{4}$  of 12 = 9



Do ask any questions about this presentation, methods used for homework, or how we prepare your child for the end of year 2 assessments.

Please see your child's class teacher in the first instance, or attend our regular maths meetings.