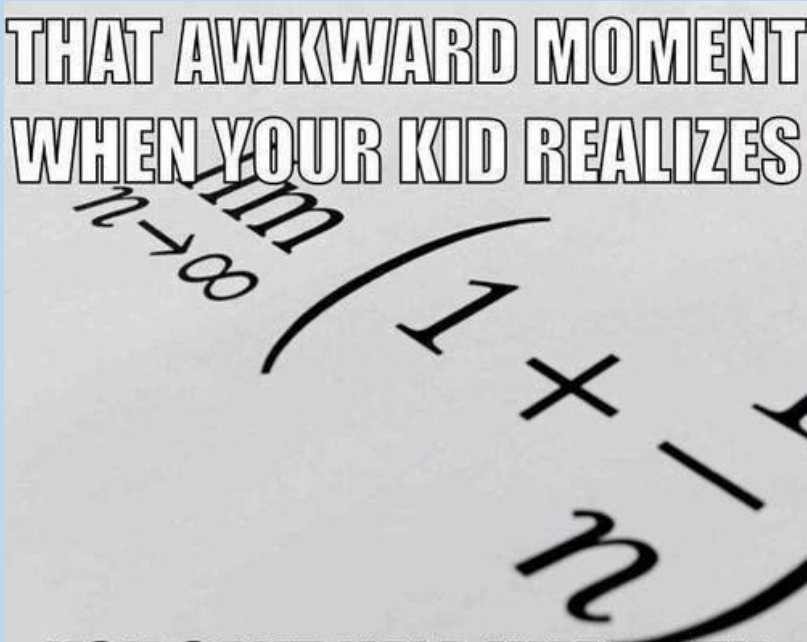
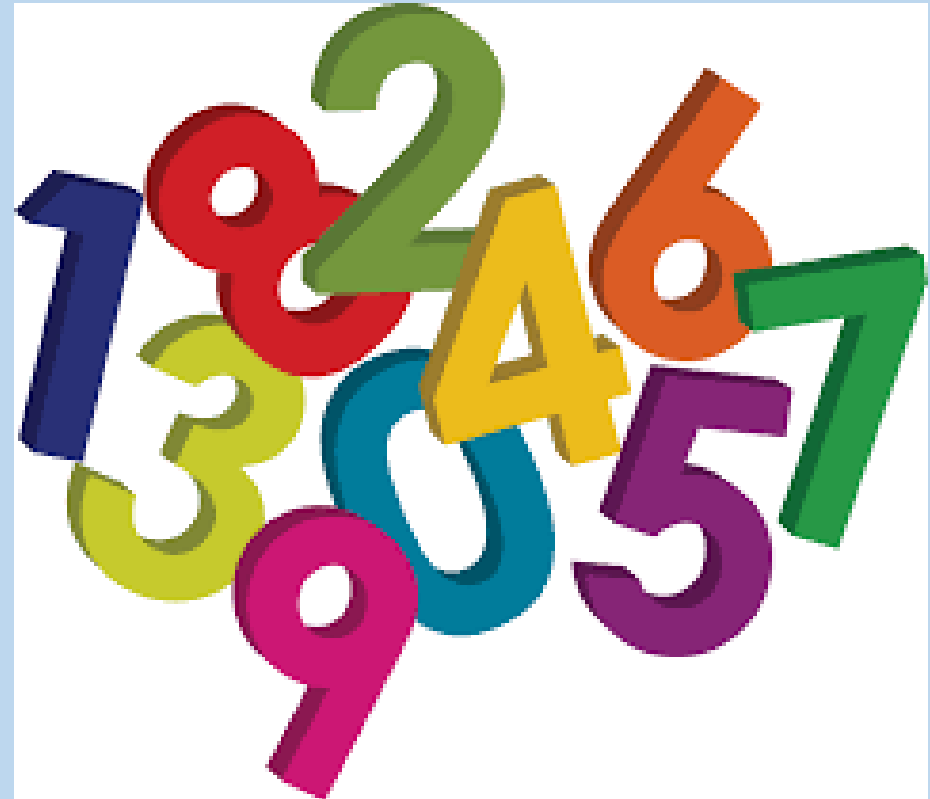


# Parent Math Workshop

THAT AWKWARD MOMENT  
WHEN YOUR KID REALIZES



YOU CANT HELP HIM WITH  
MATH HOMEWORK ANYMORE



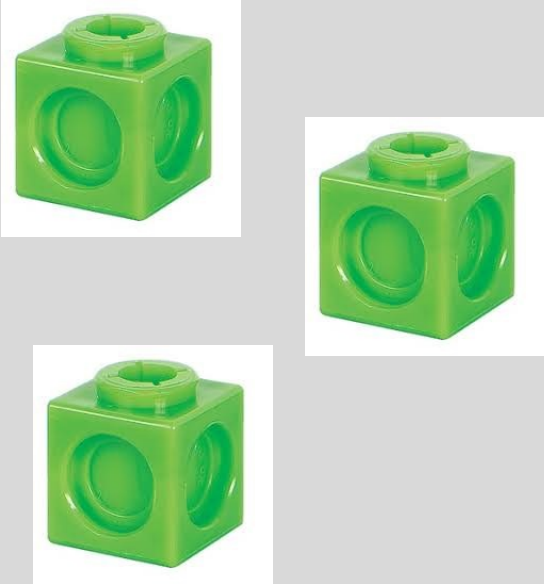
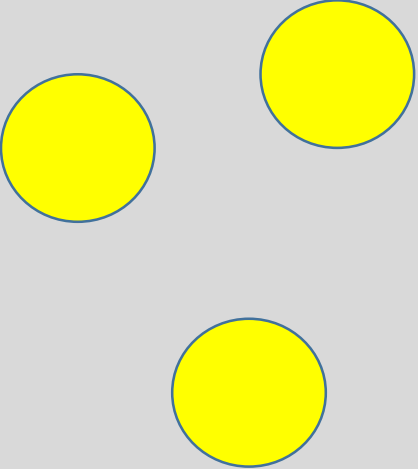
# Key aims of the current maths curriculum

- **Fluent recall of mental maths facts** e.g. times tables, number bonds.
- To **reason** mathematically – children need to be able to **explain** the mathematical concepts with number sense; they must explain **how** and **why** they got the answer and why they are correct.
- **Problem solving** – applying their skills to real – life contexts.
- **Develop** use pictorial representation to help visualise problems.

# Woodlands Federation Written Calculation Policy

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Addition</b>	<p>Combining two parts to make a whole: part whole model.</p> <p>Starting at the bigger number and counting on.</p> <p>Regrouping to make 10.</p>	<p>Adding three single digits.</p> <p>Column method – no regrouping.</p>	<p>Column method- regrouping. (up to 3 digits)</p>	<p>Column method- regrouping. (up to 4 digits)</p>	<p>Column method- regrouping. (with more than 4 digits) (Decimals- with the same amount of decimal places)</p>	<p>Column method- regrouping. (Decimals- with different amounts of decimal places)</p>
<b>Subtraction</b>	<p>Taking away ones</p> <p>Counting back</p> <p>Find the difference</p> <p>Part whole model</p> <p>Make 10</p>	<p>Counting back</p> <p>Find the difference</p> <p>Part whole model</p> <p>Make 10</p> <p>Column method- no regrouping</p>	<p>Column method with regrouping. (up to 3 digits)</p>	<p>Column method with regrouping. (up to 4 digits)</p>	<p>Column method with regrouping. (with more than 4 digits) (Decimals- with the same amount of decimal places)</p>	<p>Column method with regrouping. (Decimals- with different amounts of decimal places)</p>
<b>Multiplication</b>	<p>Doubling</p> <p>Counting in multiples</p> <p>Arrays (with support)</p>	<p>Doubling</p> <p>Counting in multiples</p> <p>Repeated addition</p> <p>Arrays- showing commutative multiplication</p>	<p>Counting in multiples</p> <p>Repeated addition</p> <p>Arrays- showing commutative multiplication</p> <p>Grid method</p>	<p>Column multiplication</p> <p>(2 and 3 digit multiplied by 1 digit)</p>	<p>Column multiplication</p> <p>(up to 4 digit numbers multiplied by 1 or 2 digits)</p>	<p>Column multiplication</p> <p>(multi digit up to 4 digits by a 2 digit number)</p>
<b>Division</b>	<p>Sharing objects into groups</p> <p>Division as grouping</p>	<p>Division as grouping</p> <p>Division within arrays</p>	<p>Division within arrays</p> <p>Division with a remainder</p> <p>Short division (2 digits by 1 digit- concrete and pictorial)</p>	<p>Division within arrays</p> <p>Division with a remainder</p> <p>Short division (up to 3 digits by 1 digit- concrete and pictorial)</p>	<p>Short division</p> <p>(up to 4 digits by a 1 digit number interpret remainders appropriately for the context)</p>	<p>Short division</p> <p>Long division</p> <p>(up to 4 digits by a 2 digit number- interpret remainders as whole numbers, fractions or round)</p>

# CPA

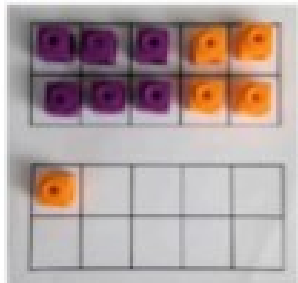
Concrete	Pictorial	Abstract
 Three green square blocks, each with a circular hole on the front face and a smaller circular hole on the top face, arranged in a triangular pattern (two on top, one on the bottom).	 Three yellow circles with blue outlines, arranged in a triangular pattern (two on top, one on the bottom).	<p data-bbox="1837 772 1964 972">3</p>

# Addition

## Tens frames

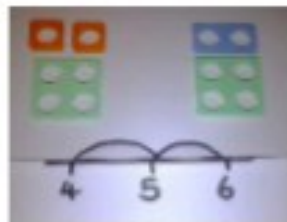
Regrouping to make 10; using ten frames.

$6+5$



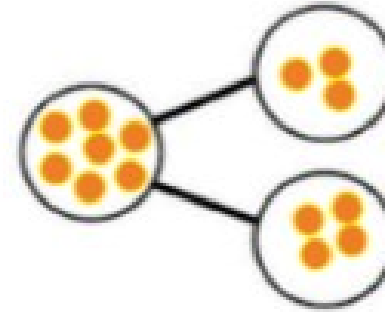
## Number lines

Counting on using number lines by using cubes or Numicon.



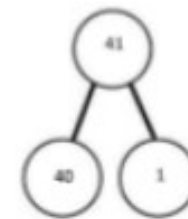
## Part, part whole models

Children to represent the counters using dots.



## Partitioning and place value column addition

$41+8$



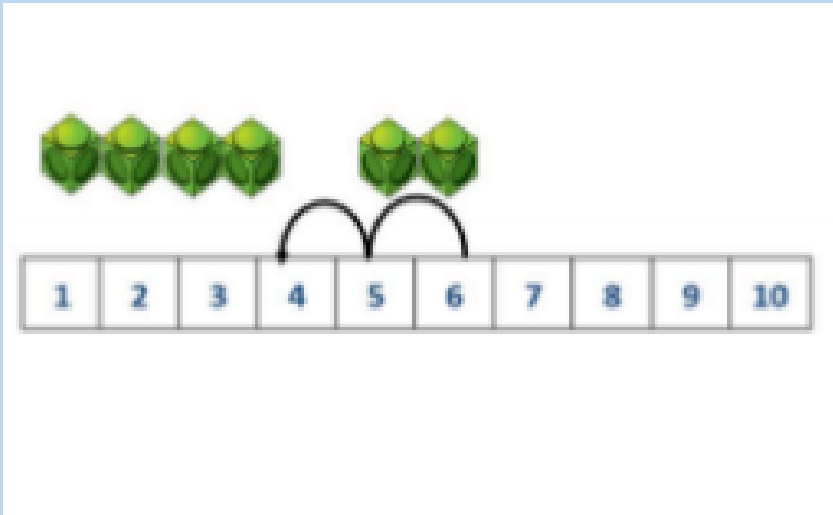
$1+8=9$

$40+9=49$

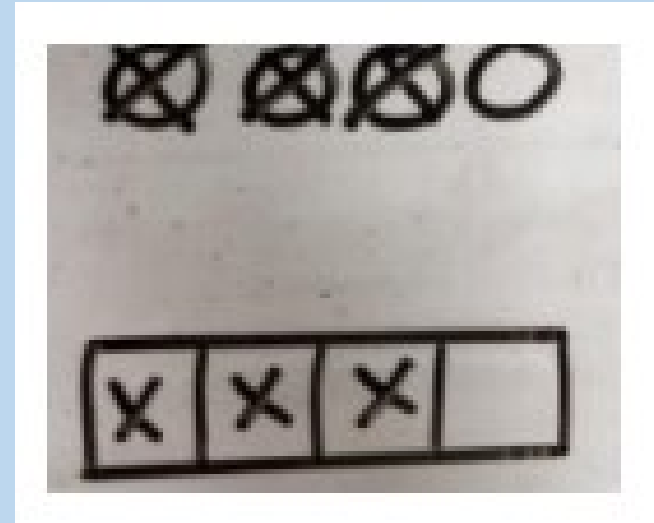
	4	1
+		8
	4	9

# Subtraction

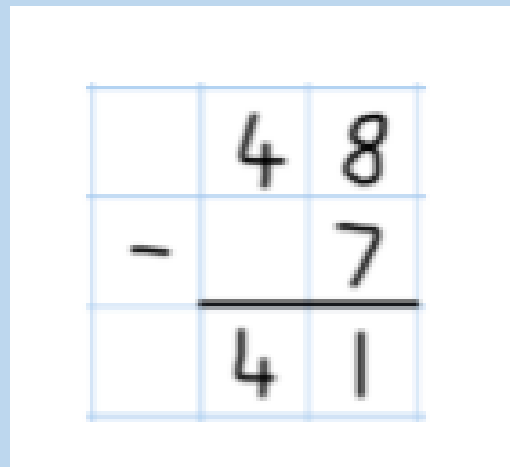
Counting back



Removing objects from a whole



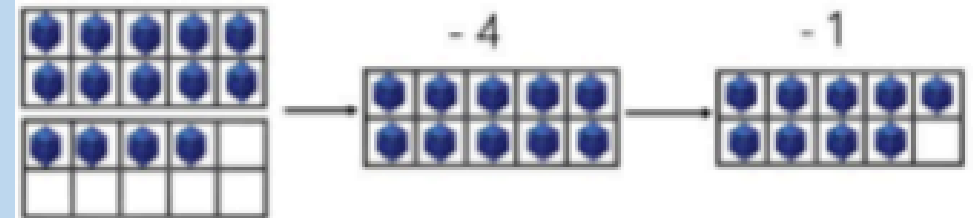
Column method



Tens frame – making 10

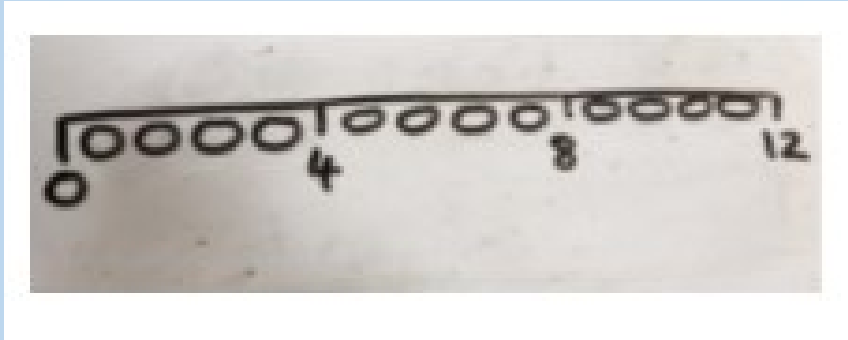
Making 10; using the tens frames.

$$14 - 5 =$$

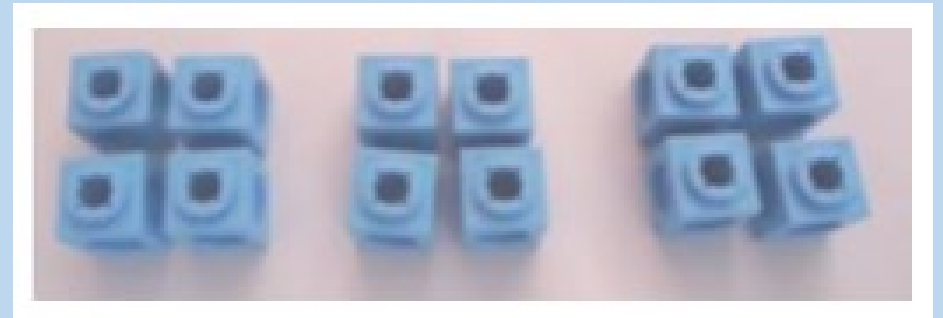


# Multiplication

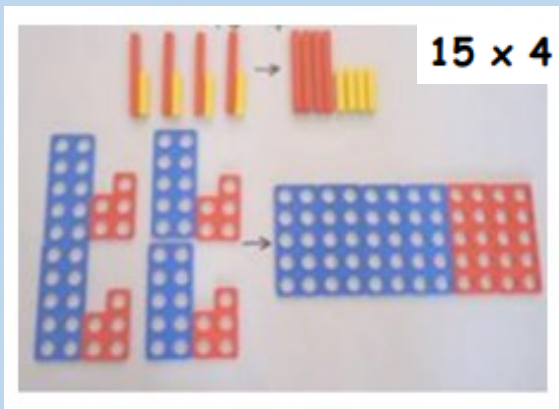
Number lines to show repeated groups



Repeated grouping/ repeated addition



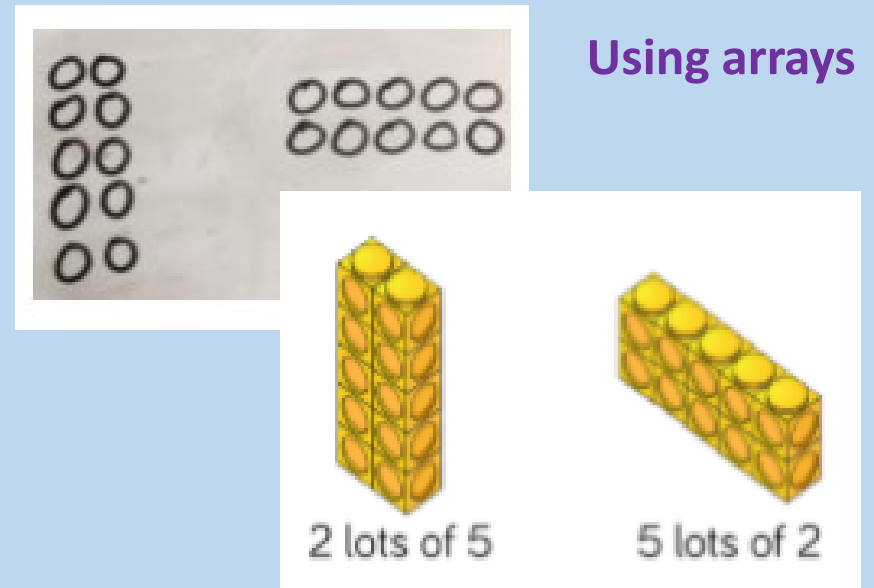
Partitioning to multiply



Formal column method

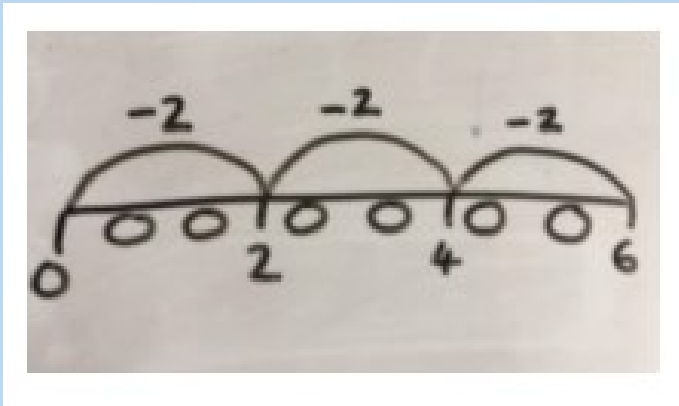
$$\begin{array}{r} 23 \\ \times 3 \\ \hline 69 \\ \hline \end{array}$$

Using arrays

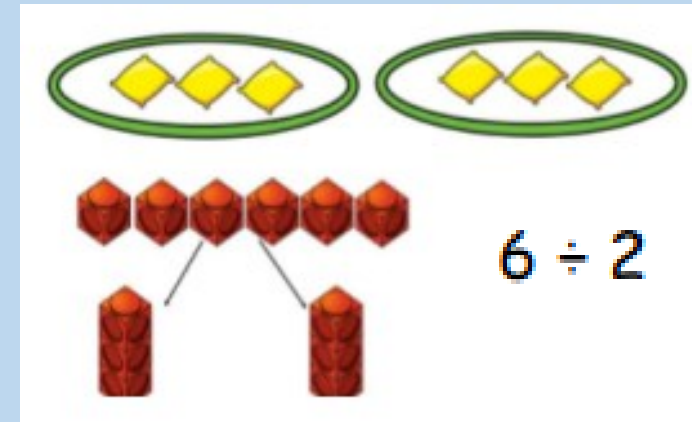


# Division

Repeated subtraction



Sharing into equal groups



Short division

$$\begin{array}{r} 123 \\ 5 \overline{) 615} \end{array}$$



# Key language

**Addition** - sum, total, parts and wholes, plus, add, altogether, more than, 'is equal to' 'is the same as'.

**Subtraction** - take away, less than, the difference, subtract, minus, fewer, decrease.

**Multiplication** - double times, multiplied by, the product of, groups of, lots of.

**Division** - share, group, divide, divided by, half.