

## CALCULATION POLICY - MULTIPLICATION

	Foundation	Year 1	Year 2	Year 3
<b>Mental Calculations and Methods *</b>	<p>Doubling with apparatus. Count in 2's</p>	<p>Count in 2s, 10s, 5s, . Doubles up to 10. Double multiples of 10 Solve one-step problems involving multiplication.</p>	<p>2 x, 10x, 5x multiplication facts Doubles up to 20 and multiples of 5. Count in 3s. Recognise odd and even numbers. Show that multiplication of two numbers can be done in any order (commutative- <math>5 \times 4 = 4 \times 5</math>). Solve problems involving multiplication, using materials, arrays, repeated addition, mental methods, and multiplication facts, including problems in contexts</p>	<p>Review 2x, 5x and 10x multiplication facts. (3a:lesson 6 onwards) 4x, 8x, 3x, 6x 9x multiplication facts (using doubling patterns).(3A:Lesson 7 onwards) Double two digit numbers. Develop efficient mental methods using commutativity <math>5 \times 4 = 4 \times 5</math> and associativity <math>(2 \times 4) \times 3 = 2 \times (4 \times 3)</math>. Derive related multiplication and division facts. Calculate multiplication statements including 2 digit multiplied by 1 digit. Partitioning- multiply the tens first then the ones. <math>(39 \times 7 = 30 \times 7 + 9 \times 7)</math></p>
<b>Written Methods *</b>	<p>Children begin to record in the context of play, practical activities, or problem solving.</p>	<p>Use jumps on a number line. Encourage children to begin to write calculations as repeated addition in preparation for Year 2. e.g. , <math>2+2+2+2=8</math>  Encourage children to list tables.</p>	<p>Continue to use repeated addition leading onto calculating mathematical statements for multiplication within the multiplication tables and writing them using the multiplication (x), division (÷) and equals (=) signs. (2:73)  Encourage children to list tables.</p>	<p>Continue to write and calculate mathematical statements for ÷ using the x tables they know progressing to formal written methods. Use partitioning (3B:133) progressing to grid method (3B:134) and then onto vertical formal written method (3B:136)  Encourage children to list tables.</p>

# CALCULATION POLICY - MULTIPLICATION

Developing Conceptual Understanding

Practical examples. E.g. How many wellies for three children?

Doubling in practical contexts. E.g. adding spots to ladybirds.

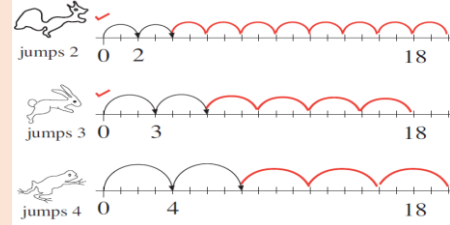
Using fingers and dominoes.


Look at Numicon pieces for odd and even.

Manipulatives –

Numicon, fingers, dominos, counting sticks, bead strings,

The animals start at 0 and jump the same each time. Draw the jumps. (1:114)



Paul spent 12 p. 

He paid with three 5 p pieces.  $5 + 5 + 5 = 15$

How much change was he given?  $15 - 12 = 3$  p

(1:122)  
**Manipulatives:**  
 Represent multiplication facts using objects:  
 2 frogs on each of the 3 lily pads:  $3 \times 2 = 6$



2 groups of 3:  $2 \times 3 = 6$



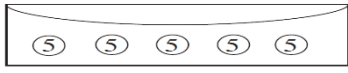
Represent multiplication facts using Numicon:  
 $3 \times 2 = 6$   
 3 groups of 2:



Represent multiplication facts using bead strings:



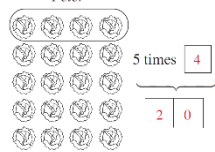

How much money is in each purse? Fill in the missing numbers. (2:73)

b) 

$5 + 5 + 5 + 5 + 5$

$5$  times  $5 = 25$

Peter and Linda are packing lettuces into boxes. Fill in the missing numbers. Who packed more lettuces? Write in the missing sign between them. (2:73)

Peter  Linda 

$5 \text{ times } 4$        $4 \text{ times } 5$

$20$        $20$

$20 = 20$

**Manipulatives:**  
 Represent multiplication facts using objects:  
 $5 \times 3 = 15$   
 5 frogs on each lily pad



Represent 3 groups of 5 using bead strings.



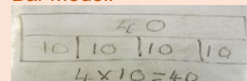
Represent multiplication facts using Numicon:  
 $5 \times 2 = 2 \times 5$



Build multiplication facts on counting stick




Bar Model:



$4 \times 10 = 40$

Show multiplication using arrays: (3A:8)

Write an addition and a multiplication about the picture.



$7 + 7 + 7 + 7 + 7 + 7 + 7 = 49$   
 $7 \times 7 = 49$

(3A:8)

Colin had £48. He was given £15 for his birthday by each of his 3 aunt. How much money does he have now?

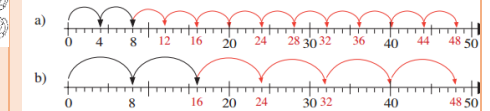
Calculation:  $48 + 15 + 15 + 15 = 48 + 3 \times 15 = 93$

Answer: Colin now has £93.

Show tables on a number line:

Starting from 0, draw jumps of equal length along the number line. Write the numbers landed on below the number line. (3A: 7)

Starting from 0, draw jumps of equal length along the number line. Write the numbers landed on below the number line.



**Manipulatives:**  
 Show multiplication using arrays:  
 $13 \times 4 = (10 \times 4) + (3 \times 4)$



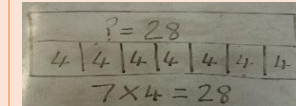
Represent multiplication facts using Numicon and bead strings:  $8 \times 3 = 24$



Represent using Diennes:



Bar Model:



## CALCULATION POLICY - MULTIPLICATION

**MAYFLOWER COMMUNITY ACADEMY MULTIPLICATION SUPPORT VIDEOS CAN BE FOUND AT:**

YEAR ONE: <https://www.youtube.com/watch?v=qZTWaqmrzk4>

YEAR TWO: <https://www.youtube.com/watch?v=QfCBSsTYA9M>

YEAR THREE: <https://www.youtube.com/watch?v=q-ARtXmLQTs>