

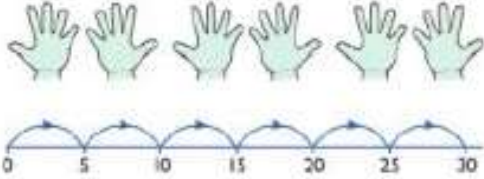




## SS Peter and Paul Multiplication policy

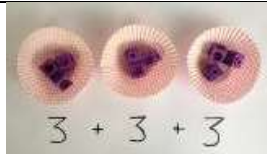
	Concrete	Pictorial	Abstract
<p><b>Stage 1</b> (Expectation by the end of year 1)</p> <p>Children will experience equal groups of objects and will count in 2s and 10s and begin to count in 5s.</p> <p>They will work on practical problem solving activities involving equal sets or groups.</p> <p>Children will need to be able to count in steps.</p> <p>Children need to be able to count in steps.</p>	    <p>Count in multiples supported by concrete objects in equal groups e.g shoes, socks, arms, legs.</p>	  <p>Use a number line or pictures to continue support in counting in multiples.</p>	<p>Count in multiples of a number aloud.</p> <p>Write sequences with multiples of numbers.</p> <p>2, 4, 6, 8, 10</p> <p>5, 10, 15, 20, 25, 30</p>



## SS Peter and Paul Multiplication policy

**Stage 2**  
(Expectation by the end of KS1)

Children will develop their understanding of multiplication and use jottings to support calculation using:

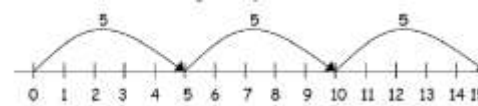


Use different objects to add equal groups.

There are 3 plates. Each plate has 2 star biscuits on. How many biscuits are there?



2 add 2 add 2 equals 6



$$5 + 5 + 5 = 15$$

Write addition sentences to describe objects and pictures.



$$2 + 2 + 2 + 2 + 2 = 10$$



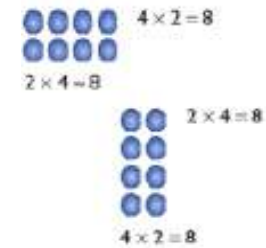
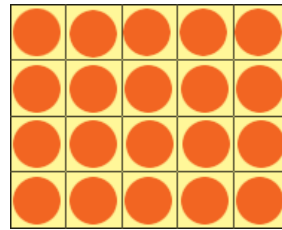
## SS Peter and Paul Multiplication policy

- Repeated addition
- Arrays  
(children should know that  $3 \times 5$  has the same answer as  $5 \times 3$ )

Create arrays using counters/ cubes to show multiplication sentences.



Draw arrays in different rotations to find **commutative** multiplication sentences.



Link arrays to area of rectangles.

Use an array to write multiplication sentences and reinforce repeated addition.



$$5 + 5 + 5 = 15$$

$$3 + 3 + 3 + 3 + 3 = 15$$

$$5 \times 3 = 15$$

$$3 \times 5 = 15$$



## SS Peter and Paul Multiplication policy

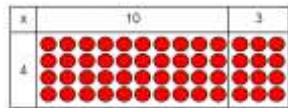
Stage 3  
(Expectation by end of lower KS2)

**The grid method and the expanded method can provide support with developing children's conceptual understanding. However, these are short term interim steps towards the final aim of the compact method of short multiplication, which is the expectation by the end of year 3.**

**Note – carried digit shown below the answer digit.**

TO x O using short

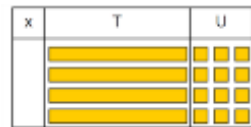
Show the link with arrays to first introduce the grid method.



4 rows of 10  
4 rows of 3

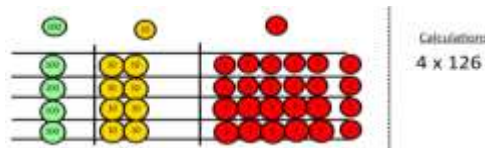
Move on to using Base 10 to move towards a more compact method.

4 rows of 13



Move on to place value counters to show how we are finding groups of a number. We are multiplying by 4 so we need 4 rows.

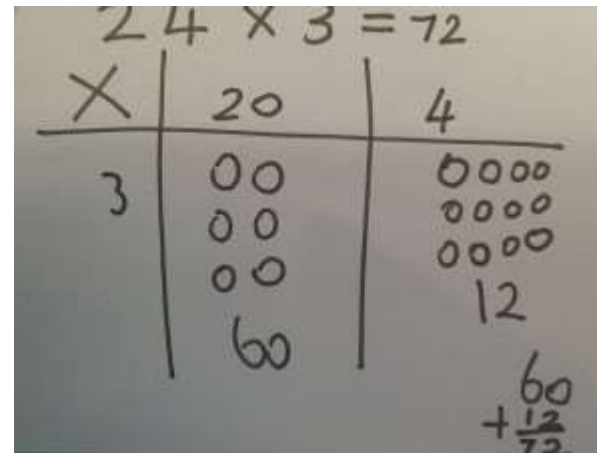
Fill each row with 126.



Add up each column, starting with the

Children can represent the work they have done with place value counters in a way that they understand.

They can draw the counters, using colours to show different amounts or just use circles in the different columns to show their thinking as shown below.

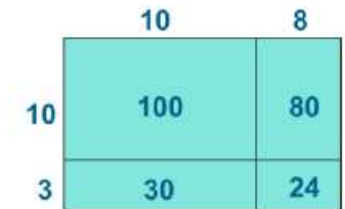


x	30	5
7	210	35

$$210 + 35 = 245$$

Start with multiplying by one digit numbers and showing the clear addition alongside the grid.

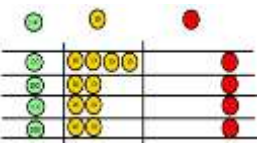

Moving forward, multiply by a 2 digit number showing the different rows within the grid method.



x	1000	300	40	2
10	10000	3000	400	20
8	8000	2400	320	16



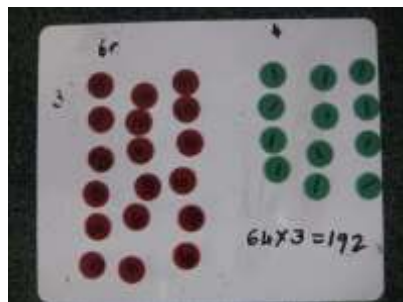
## SS Peter and Paul Multiplication policy

<p>multiplication</p> <p>HTO x O using short multiplication</p> <p>Children need to recall multiplication facts 12x12</p> <p>Work out products such as 70 x 5</p> <p>Add combinations of numbers mentally</p>	<p>ones making any exchanges needed.</p> <p>Then you have your answer.</p>  		
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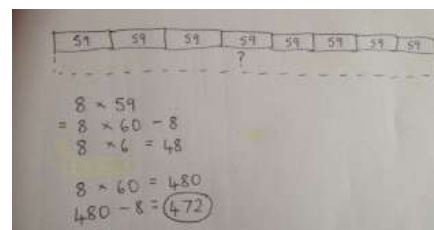
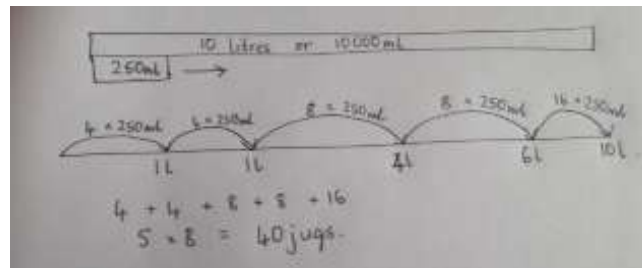
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Children can continue to be supported by place value counters.



It is important at this stage that they always multiply the ones first and note down their answer followed by the tens which they note below multiplication.

Bar modelling and number lines can support learners when solving problems with multiplication alongside the formal written methods.



Short multiplication.

$$25 \times 5 = 120$$

$$\begin{array}{r} 25 \\ \times 5 \\ \hline 125 \end{array}$$

$$\begin{array}{r} 25 \\ \times 5 \\ \hline 125 \\ 2 \end{array}$$



## SS Peter and Paul Multiplication policy

<p>Stage 4</p> <p>(Expectation by the end of upper KS2)</p> <p>TO x TO</p> <p>ThHTO x O</p> <p>HTO x TO</p> <p><u>Note – carried digit shown below the answer digit.</u></p> <p>Multiplying decimals</p>		<table border="1" style="display: inline-table; margin-right: 20px;"> <tr> <td>X</td> <td>10</td> <td>2</td> <td></td> </tr> <tr> <td>10</td> <td>100</td> <td>20</td> <td>120</td> </tr> <tr> <td>4</td> <td>40</td> <td>8</td> <td>+ 48</td> </tr> <tr> <td colspan="3"></td> <td><u>168</u></td> </tr> </table>	X	10	2		10	100	20	120	4	40	8	+ 48				<u>168</u>	<p>Handwritten multiplication examples:</p> <p>36 x 24 ----- 24 (4x6) 120 (4x30) 120 (20x6) 600 (20x30) ----- 864</p> <p>347 x 24 ----- 1388 6940 ----- 8328</p> <p>4.92 x 3 ----- 14.76</p>
X	10	2																	
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