

## First Level Addition and Subtraction

By the end of p4, most pupils can:

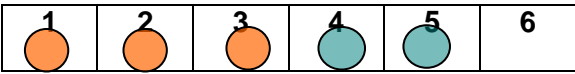

**Demonstrate an understanding of the commutative law, for example,  $6 + 3 = 3 + 6$  or  $2 \times 4 = 4 \times 2$ .**

**Solve addition and subtraction problems with three digit whole numbers.**

**Add and subtract multiples of 10 or 100 to or from any whole number to 1000.**

**Solve two step problems.**

*(taken from Education Scotland Benchmarks Numeracy and Mathematics 2017. To see all visit: <https://education.gov.scot/improvement/documents/numeracyandmathematicsbenchmarks.pdf>)*

Strategies that may be taught throughout p1-4 (later and earlier for some)	What can be done at home to help
<p>The strategies that may be taught are:</p> <ul style="list-style-type: none"> <li>• Counters</li> <li>• Jump</li> <li>• Split</li> <li>• Hundreds, Tens and Ones</li> <li>• Formal written method</li> </ul> <p>P1-p4 pupils may use these strategies to work with 1,2 and 3 digit numbers</p> <p><b><u>Counters</u></b> Using number tracks and counters learners will solve simple addition and subtraction sums. This allows them to understand signs used and number sentences. Children will recognise that addition can be done in any order. They will begin to combine and partition numbers without having to count the counters.</p> <p><b><math>3 + 2 = 5</math></b></p>  <p>A number track with six boxes labeled 1 to 6. Boxes 1, 2, and 3 contain orange circles. Boxes 4 and 5 contain blue circles. Box 6 is empty.</p> <p><b>Counting on to find a small difference</b></p> <p><b><math>12 - 5 = 7</math></b></p>  <p>A horizontal number line with 12 orange circles. A vertical dashed line is drawn between the 5th and 6th circles.</p>	<p>Improve mental agility by asking number facts within 20 as these should now be very quick so</p> <p><math>4+2 =</math>  <math>5+8=</math>  <math>9+2=</math>  <math>15+4=</math></p> <p>You could do this when counting objects, playing board games with 2 dice, shopping etc</p> <p>Discuss real life scenarios involving the addition and subtraction of 1,2 or 3 digit numbers – If you are looking for a new holiday, TV, car or house, compare prices</p> <p>Support your child with the strategy they are currently working on. For addition, subtraction, multiplication and division your child will be encouraged to use and practise a taught strategy in class as well as the written method. Once taught the written method, many children can become reliant on it but should be encouraged to use the taught strategy and reserve the written method for larger numbers.</p>

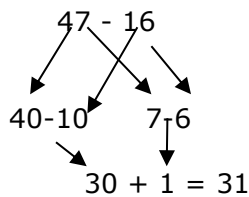
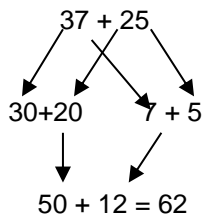
### The jump strategy

The jump strategy is when you either jump forwards or backwards using a number line.

<https://www.youtube.com/watch?v=0ABI7UFDg2o>

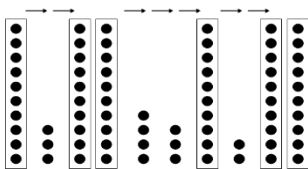
### The split strategy

The split strategy is when the tens and ones are split and then recombined.



### Tens and Ones

When children have become confident adding to 20 using counter they will then be introduced to tens and ones (and later by hundreds). Children will then add and subtract by ones and tens.



There are lots of online games which the children use in school but could also do at home:

- Education City (account will have been set up by class teacher)
- Sum Dog (account will have been set up by class teacher)
- Doodle Maths
- Mathletics
- Number Run
- Pet Bingo
- Monster Math
- Skidos Race Cars for Kids
- Maths with Springbird
- iLearn with Boing
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### Formal written method

This is a step by step procedure with a very precise layout and should only be encouraged to mental math strategies when possible.

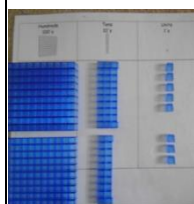
$$\begin{array}{r} 568 \\ + 273 \\ \hline 841 \\ \hline 11 \end{array}$$

638  
-254  
384

Work from right to left, calculate with single digit numbers, record the result for each column below the line.  
Need to recognise the issue when the digit you are taking away is greater than the digit you are taking away from - decomposition or regrouping

### Materials that may be used in class

- 100 squares
- Blank number lines
- Place value materials (Hundreds, Tens and ones)
- Calculators
- Squared paper
- Abacus
- Counters



## First Level Multiplication and Division

By the end of p4, most pupils can:

**Count forwards backwards in 2s, 5s, 10s and 100s.**

**Demonstrate understanding of the commutative law for example  $2 \times 4 = 4 \times 2$ .**


**Apply strategies to determine multiplication facts, for example, repeated addition, grouping, arrays and multiplication facts.**

**Apply strategies to determine division facts for example, repeated subtraction, equal groups, sharing equally, arrays and multiplication facts.**

**Use multiplication and division facts to solve problems within the number range 0 – 1000.**

**Multiply and divide whole numbers by 100 and 100.**

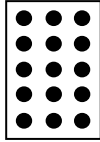
*(taken from Education Scotland Benchmarks Numeracy and Mathematics 2017. To see all visit: <https://education.gov.scot/improvement/documents/numeracyandmathematicsbenchmarks.pdf>)*

Strategies that may be taught throughout p1-4	What can be done at home to help
<p>The strategies that may be taught are:</p> <ul style="list-style-type: none"><li>• Repeated addition</li><li>• Arrays</li><li>• Counting sticks</li><li>• Number lines</li></ul> <p><b><u>Repeated addition</u></b></p> $3 + 3 + 3 + 3 + 3 = 3 \times 5$ <p>Multiplication is described as repeated addition, repeated equal groups.</p> <p>Learners will then use beads, counters and models to count on in 2s, 3s, 5s and 10s</p> <p>Counting by 2s, 5s and 3s on tiles (dot cards) as distinct from learning merely to say the sequence of multiples</p> 	<p>Improve mental agility with quick recall of multiplication facts by:</p> <ul style="list-style-type: none"><li>• Reciting table facts forwards and backwards</li><li>• Answering table fact questions</li></ul> <p><b><u>Real life examples</u></b></p> <p>Buying multiple items at the shops eg. If a single banana cost 12p and a bunch of 6 costs 90p – are you cheaper buying 6 singles or the bunch?</p> <p>There are lots of online games which the children use in school but could also do at home:</p> <ul style="list-style-type: none"><li>• Education City (account will have been set up by class teacher)</li><li>• Sum Dog (account will have been set up by class teacher)</li><li>• Doodle Maths</li><li>• Mathletics</li><li>• Number Run</li></ul>

### Arrays

Arrays will be used to show the visual representation of a multiplication.

3 x 5 array of dots, that is five rows and three columns.  
*Can you tell me how many dots there are altogether?*



### Counting Sticks

A stick can be used to count forwards and backwards throughout the table stations.

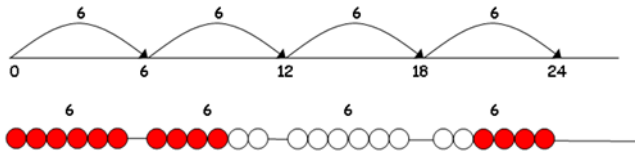


<https://www.youtube.com/watch?v=8N8NX3UgCjY>

### Number Lines

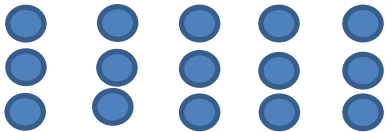
$$6 \times 4 = 24$$

Blank number lines (supported by counters) show the repeated addition for larger numbers

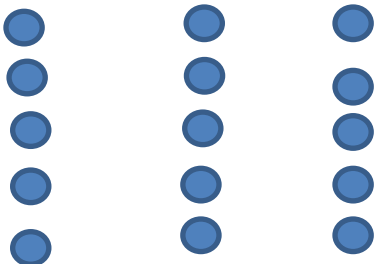


### Sharing and Grouping

If we have 15 counters we can group the counters into 3s to show that  $15 \div 3 = 5$



Or we can share the 15 counters between 5 to show that  $15 \div 5 = 3$



- Eggs on Legs
- Ibbleobble
- Multiple wipe out
- Montessori Maths Multiplication
- Squeebles Maths Play
- Multiply Pizza Pie

