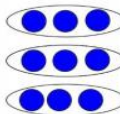
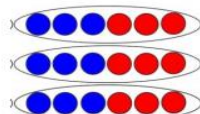

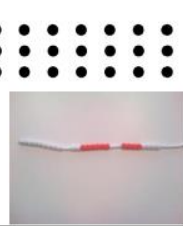

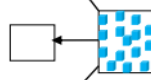
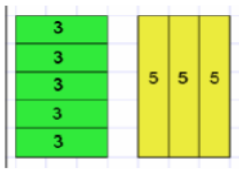
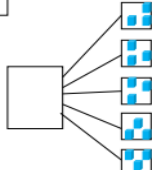








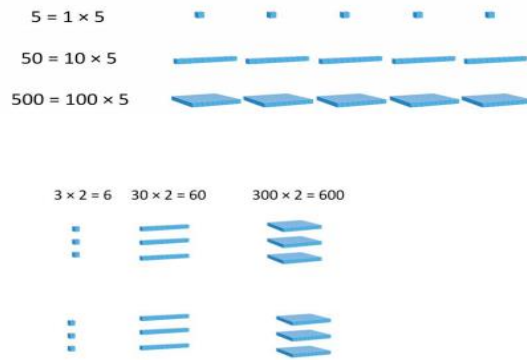
# Year 3 Multiplication

Strategy and Guidance	CPA
<p><b>Doubling to derive new multiplication facts</b></p> <p>Pupils continue to make use of the idea that facts from easier times tables can be used to derive facts from related times tables using doubling as a strategy. This builds on the doubling strategy from Year 2.</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <math>3 \times 3 = 9</math>   </div> <div style="text-align: center;"> <math>3 \times 6 = \text{double } 9 = 18</math>   </div> </div>
<p><b>Skip counting in multiples of 2, 3, 4, 5, 6, 8 and 10</b></p> <p>Rehearsal of previously learnt tables as well as new content for Year 3 should be incorporated into transition activities and practised regularly.</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div>
<p><b>Use of part-part whole model with arrays and bar models to establish commutativity and inverse relationship between multiplication and division</b></p> <p>In these contexts pupils are able to identify all the equations in a fact family.</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div>
<p><b>Ten times greater</b></p> <p>Pupils's work on this must be firmly based on concrete representations - the language of ten times greater must be well modelled and understood to prevent the numerical misconception of 'adding a zero'.</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div>
<p><b>Multiplying by 10 and 100</b></p> <p>Building on the ten times greater work, pupils use appropriate Dienes blocks and place value counters to multiply 2, 3, 4, 5 and 10 by 10, 100 and 1000.</p>	<div style="margin-bottom: 10px;"> <math>5 \times 1 = 5</math>  </div> <div style="margin-bottom: 10px;"> <math>5 \times 10 = 50</math>  </div> <div style="margin-bottom: 10px;"> <math>3 \times 1 = 3</math>  </div> <div> <math>3 \times 100 = 300</math>  </div>

# Year 3 Multiplication

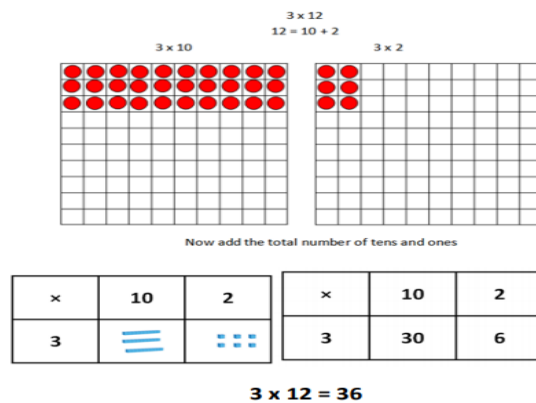
## Using known facts for multiplying by multiples of 10 and 100

Pupils' growing understanding of place value, allows them to make use of known facts to derive multiplications using powers of 10. It is important to use tables with which they are already familiar (i.e. not 7 or 9 tables in Year 3)



## Multiplication of 2- digit numbers with partitioning (no regrouping)

Children should always consider whether partitioning is the best strategy – if it is possible to use strategies such as doubling (some may use doubling twice for  $\times 4$ ), they need to choose the most efficient strategy. Children may wish to make jottings, including a full grid as exemplified here – but grid method is not a formal method and its only purpose is to record mental calculations. This supports the development of the necessary mental calculating skills but does not hinder the introduction of formal written methods in Year 4. Concrete manipulatives are essential to develop understanding.



## Multiplication of 2- digit numbers with partitioning (regrouping)

Using concrete manipulatives and later moving to using images that represent them, supports pupils' early understanding, leading towards formal written methods in Year 4. Once again, this is a mental strategy, which they may choose to support with informal jottings, including a full grid, as exemplified here. Pupils must be encouraged to make use of their known multiplication facts and their knowledge of place value to calculate, rather than counting manipulatives.

