**Mental Maths**

**Year 6**

In Year 6 children will hopefully be fluent and fast in their recall of multiplication facts from the 1-12 time tables. They should also be able to use the four operations and pick the appropriate operation for word problems, as well as explaining their reasoning. They will use more substitution of shapes or icons for numbers as an introduction to algebra which is covered in more depth now and can be applied to a range of problem solving.

**Year 6 pupils should also be taught:**

* Addition and subtraction of multiples of 10 (e.g. 60 + 40= 100, 80 + 30 = 110, 40 + 20 = 60)
* Addition and subtraction of multiples of 100 (e.g. 200 + 400 = 600, 500 + 600 = 1,100, 900 + 500 = 1,400)
* Addition and subtraction of multiples of 1000 (e.g. 4000 + 5000 = 9000)
* Double and halves of multiples of 10 to 100 (e.g. double 80 = 160, half 50 = 25)
* Quadruples (x4) of all numbers to 10 (e.g. 5 x 4 = 20)
* Multiplying two-digit number by 10 (e.g. 31 x 10 = 310)
* Halves of any number up to 100 (e.g. half of 22 = 11, half of 51 = 25.5)
* Multiplying and dividing any number by 10 and 100 (e.g. 14 x 100 = 1,400, 45 ÷ 100 = 0.45, 3.4 x 10 = 34)
* Multiplication of multiples of 10 and 100 based on known facts (e.g. 50 x 50 = 2,500)
* Squares of all number up to 12
* And cubes of 2,3,4 and 5

**Year 5**

Together with the 1-12 x multiplication, division facts and basic addition facts, children should be able to answer the following Year 5 mental maths questions:

* Addition and subtraction of multiples of 10 (e.g. 60 + 40= 100, 40 + 70 = 110, 30 + 40 = 70)
* Addition and subtraction of multiples of 100 (e.g. 200 + 500 = 700, 300 + 700 = 1,000, 800 + 600 = 1,400)
* Addition and subtraction of multiples of 1000 (e.g. 4000 + 5000 = 9000)
* Double and halves of multiples of 10 to 100 (e.g. double 70 = 140, half 40 = 20)
* Quadruples (x4) of all numbers to 10 (e.g. 7 x 4 = 28)
* Multiplying two-digit number by 10 (e.g. 34 x 10 = 340)
* Halves of any number up to 100 (e.g. half of 24 = 12, half of 51 = 25.5)
* Multiplying and dividing any number by 10 and 100 (e.g. 24 x 100 = 2,400, 45 ÷ 100 = 0.45, 3.4 x 10 = 34)
* Multiplication of multiples of 10 and 100 based on known facts (e.g. 40 x 40 = 1,600)
* Squares of all number up to 12
* And cubes of 2,3,4 and 5

**Year 4**

Together with the 1-12 x multiplication and division facts and basic addition facts, children should be able to answer the following Year 4 mental maths questions:

* Addition and subtraction of multiples of 10 (e.g. 70 + 30 = 100, 50 + 60 = 110, 20 + 40 = 60)
* Addition and subtraction of multiples of 100 where the answer is 1,000 or less (e.g. 300 + 400 = 700, 400 + 600 = 1,000)
* Double and halves of multiples of 10 to 100 (e.g. double 60 = 120, half 50 = 25)
* Multiplying two-digit numbers by 10 (e.g. 24 x 10 = 240)
* Halves of any even number to 100 (e.g. half of 22 = 11)
* Multiplying any two and three-digit number by 10 and 100 (e.g. 24 x 100 = 2,400)

**Year 3**

Together with the 1-12 x multiplication and division facts and basic addition facts, children should be able to answer the following Year 3 mental maths questions:

* Addition and subtraction of multiples of 10 where the answer is between 0 and 100 (e.g. 70 + 30 = 100, 20 + 40 = 60)
* Double and halves of multiples of 10 to 100 (e.g. double 60 = 120)
* Multiplying two-digit numbers by 10. (e.g. 24 x 10 = 240)
* Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables

**Year 2**

Together with the 1-12 x multiplication and division facts and basic addition facts, children should be able to answer the following Year 2 mental maths questions:

* Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables
* Recall and use addition and subtraction facts to 20 fluently
* Derive and use related facts up to 100.
* Add on in steps of 2, 3 and 5 from 0, as well as in steps of 10 from any number.