|  | Addition To be taught alongside each other Subtraction | | Multiplication To be taught alongside each other Division | |
| --- | --- | --- | --- | --- |
| Y5 | Children should be taught to add **more than four digits,**  including decimals  **Number lines using efficient counting on**  4526ml + 3807ml = 8333ml = 8.333 litres  + 1000 + 1000 + 1000 + 500 + 300 + 4 +3    *4526 5526 6526 7526 8026 8326 8330 8333 ml*  4526ml + 3000ml + 800ml + 7 ml  **Compact Method**  C:\Users\Sal\Videos\FlipShare Data\Videos\VID00392.jpg C:\Users\Sal\Videos\FlipShare Data\Videos\VID00369.jpg C:\Users\Sal\Videos\FlipShare Data\Videos\VID00391.jpg  **Compensation** Children need to round and adjust to the nearest 10 / 100/1000 especially in the context of money.  £4.95 + £6.80 + £9.14 =  £5.00 **– 5p** + £7.00 **– 20p** + £9.00 **+ 14p** =  £5.00 + £7.00 + £9.00 **=** £21.00  **+ 14p** – **25p = - 11p**  = £21.00 **– 11p** = £ 20.89  *Using similar methods, children will:*   * *add several numbers with different numbers of digits;* * *begin to add two or more decimal fractions with up to three digits and the same number of decimal places;* * *know that decimal points should line up under each other, particularly when adding or subtracting mixed amounts, e.g. 3.2 m – 280 cm.* | Children should be taught to subtract using **more than four digits,**  including decimals  **Number lines and Difference** ‘Find the difference by counting up’  E.g. *754 - 586* *or* 21.4cm – 18.6cm = 18.6cm + = 21.4cm  C:\Users\Sal\Videos\FlipShare Data\Videos\VID00395.jpg  Where the numbers involved in the calculation are close together or near to multiples of 10, 100 etc counting on using a number line should be used. E.g. 1209 – 388 = 821    **Partitioning and decomposition (only when secure using number lines)**  600 140 14  700+ 50+ 4  - 200+ 80+ 6   |  | | --- | | 400+ 60+ 8 = 468 |   C:\Users\Sal\Videos\FlipShare Data\Videos\VID00302.jpg  **Decomposition (Only when secure with the expanded form)**    3 12 2 16 3000 1200 20 16  4 2 3 6 4000 200 30 6  - 2 8 2 7 - 2000 800 20 7  = 1 4 0 9 1000 400 0 9  **Moving onto decimals when secure**  *Children should:*   * *be able to subtract numbers with different numbers of digits;* * *begin to find the difference between two decimal fractions with up to three digits and the same number of decimal places;* * *know that decimal points should line up under each other* * *encourage children to record in the most efficient way: just two steps.* | **Grid method (See Y4 to link grid method with arrays)**  Children should calculate TOxO mentally, with jottings (not grid).  3 and 4 digit x 1 digit numbers  **Short multiplication (multiplication by a single digit)**  Children will approximate first  **346 x 9 is approximately 350 x 10 = 3500**    **Long multiplication (multiplication by more than a single digit**)  Children will approximate first  **72 x 38 is approximately 70 x 40 = 2800**    Expanded column method (most able children)  *Children should multiply* ***decimals with one decimal place by a single digit number,*** *approximating first. They should know that the decimal points line up under each other.*  **4.9 x 3 is approximately 5 x 3 = 15**    Factorise to multiply by larger numbers eg. 35x14  35x (2x7)  (35x2) x7  70x7= 490 | Children should calculate TO ÷ O mentally, with jottings, using knowledge of known facts.  **Short division HTO** ÷ **O** Children can start to subtract larger multiples of the divisor, by x multiples of 10      Solve division by chunking into known multiples of the divisor and illustrate on a vertical number line.  Any remainders should be shown as integers, then as fractions, i.e. if the children were dividing 32 by 10, the answer should be shown as 3 2/10 (which could then be written as 3 1/5 in it’s lowest terms).  Children need to make sensible decisions about rounding up or down after division, according to the context.  C:\Users\Sal\Videos\FlipShare Data\Videos\VID00407.jpg (See Y4)   |  | | --- | | 2000 ÷ 400  2000 ÷ 4  1500 ÷ 500  1500 ÷ 5  400 x 5  500 x 4  1/4 of 2000  1/5 of 2000  **Known Facts** |   C:\Users\Sal\Videos\FlipShare Data\Videos\VID00381.jpg |