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|  | Addition in KS2 at Great Moor Junior School   * As much as possible, **addition should be taught alongside subtraction as an inverse.** * **Concrete materials** such as place value discs, base ten resources, place value charts, number lines, number squares, blocks or counters etc. are integral to support children’s understanding of addition. * Teaching should move from a more concrete representation to a more abstract. An on-screen or visual model can help to bridge between the two. | | | | | | |
| **Year 3**  **A**dd and subtract numbers mentally, including:  a three-digit number and ones  a three-digit number and tens  a three-digit number and hundreds  Two 2-digit numbers across 100 (non-statutory guidance)  Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction | **Partitioning** the numbers for TU + TU across 100  **55 + 78**  70 + 50 = 120  8 + 5 = 13  120 + 13 = 133  **55 + 78**  78 + 50 = 128  128 + 2 + 3 = 133  Recall of facts to 20 and by adding multiples of 10 will support this thinking | **Special cases**  **66 + 79**  80 +66 – 1 = 145  **Using doubles**  **76 + 78**  Double 70 + double 6 + 2  Double 70 + double 8 – 2  Recall of facts to 20 and by adding multiples of 10 will support this thinking  Other strategies to cover include:   * Look for numberbonds * Look for doubles * Start with the larger number | **Partitioning**  Adding ones and tens to a 3digit number  **356 + 8**  356 + 4 + 4 = 364  **356 + 70**  350 + 70 + 6 = 420  **356 + 600**  300 + 600 + 56 = 956 | | **Addition of three digit + 2 digit numbers and 3-digit + 3 digit**  Compact written addition (generally speaking, indicators that children are ready to progress to this method include:   * +/- facts to 20 * Understanding of p.v. * Able to partition * Can explain mental strategies * Can record informally with jottings   **5 7 6**  **+3 6 9**  **9 4 5**   1. **1**   *Note: Expanded column addition (below) should only be used if children have difficulty in moving on from partitioning.*  2 6 8  + 7 9  2 0 0  1 3 0  1 7  3 4 7 | Addition of numbers with decimal places  **1.5 + 1.5**  Double 1 and double 0.5  **1.6 + 1.7**  1.7 + 0.3 + 1.3 = 3.3  **Standard Written Method Addition**  “Carried” numbers should be written underneath the equals, in the middle of the correct column.  Children start with the ones first.  Digits should be referred to by their value i.e 6 in the tens column is 6 TENS or 60 not 6.  Carried digits are struck out once added (not erased/scribbled out.) | |
| **Year 4**  Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate | **Using mental strategy where appropriate**  **1460 + 499**  1460 + 500 – 1 = 1959  **2560 + 3570**  6000 + 130 = 6130 | **Addition of three digit + 3-digit and four digit + four digit**  **5 7 6**  **+ 3 6 9**  **9 4 5**  **1 1**  **7 2 6 8**  **+ 5 1 7 9**  **1 2 4 4 7**  **1 1 1**  *Please see note above re SWM addition.* | **Addition of numbers to 2 decimal places**  **4∙ 4 5**  **+ 3∙ 5 5**  **8∙ 0 0**  **1 1**  **5 7∙ 8 9**  **+ 4 6∙ 6 7**  **1 0 4∙ 5 6**  **1 1 1 1** | | **Addition of Decimals**  The decimal point should be written on the line in the vertical centre of the numbers (it does not have its own box.)  “Empty” spaces at the end of decimals should be filled with zero as a placeholder.  Numbers after the decimal point should be referred to by their value i.e. 6 tenths or 6 hundredths etc. | Placeholder  Placeholder | |
| **Year 5**  Add and subtract numbers mentally with increasingly large numbers eg 5-digit – 4-digit multiple of 10  Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) | **Using mental calculation by counting on**  **45678 + 3500 = 49178**  45678 + 3000 = 48678  42678 +500 = 49178  **5.78 + 2.45** = **8.23**  5.78 + 2 = 7.78  5.73 + 0.4 = 8.18  5.33 + 0.05 = 8.23 | **Column addition**  **5 8 7 6 5**  **+ 29648 +**  **8 8 4 0 3**  **1 1 1 1**  *Please see note above re SWM addition.* | | **Mixed decimals**  **57 .89 + 46.6 + 23.785**  **2 3∙ 7 8 5**  placeholders  **5 7∙ 8 9 0**  **+4 6∙ 6 0 0**  **1 2 8∙ 2 7 5**  **1 1 2 1** |  | |  |
| **Year 6**  Perform mental calculations, including with mixed operations and large numbers | **Partitioning**  **4.578 + 0.008 = 4.586**  **6.568 + 0.079 = 6.647**  **6.568 + 0.07 = 6.638**  **6.638 + 0.009 = 6.647** | **Column addition with 5 or 6 digits**  **5 8 7 6 5**  **+29638**  **8 8 4 0 3**  **1 1 1 1**  *Please see note above re SWM addition/decimals.* | | **Using all 4 operations**  **6 + 7 × 8 = 62**  because multiplication first then addition when there are no brackets  **2780 – 910 + 1220** can be reordered to 2780 + 1220 – 910= 3090  as long as the symbol moves with the number |  | |  |