**Pinders Primary School – Mathematics Mental Strategies – Year 3**

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| **Rapid Recall Skills** | **Key Knowledge and Vocabulary** |
| * 3, 4 and 8 times table and associated division facts * Multiply 2 digit number by 10 * Add/subtract multiples of 10 where the answer is between 0 and 100 (e.g. 70 + 30 = 100, 20 + 40 = 60) * Doubles and halves of multiples of 10 up to 100 | **Know how to count on or back in intervals of five from any multiple of five**   * Know that a number line can be used.      * Know that tens frames can be used.     5 10 15 20   * Know that 35 + 15 can be solved by adding three lots of 5 to 35.     **Know how to Count on or back in hundreds from any number**   * Know that 570 + 300 can be solved by counting in multiples of 100.      * Know that dienes or counters can be used to represent the total number and visualise removing the hundred plates.     1, 3 4 6 – 3 0 0 = 1, 1 4 6  **Partitioning**   * Know how to solve calculations with whole numbers which involve crossing place value boundaries by partitioning.   e.g. 42 – 28 = ? partition 28 into 20 + 2 + 6 so 42 – 2 – 20 - 6.  42 – 28 = 14  40 – 2 = 40  40 – 20 = 20  20 – 6 = 14       * Know how to partition numbers in different ways. |
|  | **Adjusting – bridging or compensating numbers to round them to multiples of ten**   * Know how to adjust numbers to use multiples of 10   e.g. 34 + 68 becomes 38 + 70 (-2) e.g. 45 – 29 becomes 45 – 30 (+1)     * Know how to adjust numbers to make multiples.     **Near Doubles**   * Know how to use near doubles to numbers up to 20 or to multiples of 10.     e.g. 18 + 16 is double 18 and -2 or double 16 and +2 e.g. 60 + 70 is double 60 +10 or double 70 -10. |
|  | **Doubling and Halving**   * Know how to find the double and half of any two-digit number and any multiple of 10 or 100.   e.g. half of 600 e.g. double 74     * Know how to multiply and divide by 4 and 8 by doubling and doubling again or halving and halving again.   e.g. 34 x 4 = 34 x 2 x 2 e.g. 112 ÷ 8 = 112 ÷ 2 ÷ 2 ÷ 2 |

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