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| Year 5  ES | End of year expectations for mental calculation | End of year expectations for written methods and problem solving | Written strategies/ recordings/methods/images | Vocabulary  &  Links |
| * Subtract numbers mentally with increasingly large numbers.   e.g. 12 462 - 2300 = 10 162   * Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. * Pupils practise adding and subtracting decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1   e.g 1 - 0.17 = 0.83.   * Pupils mentally add and subtract tenths,   and 1-digit whole numbers and tenths.  Basic Mental Strategies for Subtraction   * Find differences by counting up * Partitioning * Applying known facts * Bridging through 10 and multiples of 10 * Subtracting 9, 11 etc. by compensating * Counting on to, or back from the largest number   *National Curriculum 1999* | Add and subtract whole numbers with more than 4 digits, including using formal written methods  (column addition and subtraction).  Pupils practise adding and subtracting decimals*.*  Begin with three‐digit numbers using formal, column method; then move into four‐digit numbers.  £17.34 - £12.16  1000+700+20+14p  ‐ 1000+200+10+ 6p  500+ 10+ 8p    2 1  1 734p  £ 2 1  17.34  ‐ 12.16  5.18  ‐ 1 216p  518p  **Fractions**  Subtract fractions with the same denominator and denominators that are multiples of the same number.  (*Include fractions exceeding 1 as a mixed number.)*  Solve problems involving number up to three decimal places .  Mentally add and subtract tenths, and 1-digit whole numbers and tenths. | As in Year 4, compare physical and / or pictorial representations and expanded algorithms alongside  column methods. Ask: *What is the same? What’s different?*  Compare and discuss the suitability of different methods, (mental or written), in context.  Revert to expanded methods whenever difficulties arise  Use physical and pictorial representations to stress the place value relationships between money, decimals and whole numbers. A place value mat such as the one below could be used, moving away from the traditional: **hundreds, tens and ones**model used in Lower KS2 and KS1.  [http://www.free-math-handwriting-and-reading-worksheets.com/images/decimal-place-value-chart-2.jpg](http://www.google.co.uk/url?sa=i&rct=j&q=&esrc=s&frm=1&source=images&cd=&cad=rja&uact=8&ved=0CAcQjRw&url=http://www.free-math-handwriting-and-reading-worksheets.com/decimal-place-value-chart.html&ei=Ds1pVa1FqrTuBoj9gtgH&bvm=bv.94455598,d.ZGU&psig=AFQjCNEs9QpAZ7Xh0oK2JWsheYnFAFOVhQ&ust=1433083447789026) | Solve problems involving addition, subtraction, multiplication and division and a combination of these,  including understanding the meaning of the equals sign.  Use all four operations to solve problems involving time, money and measure using decimal notation;  ( up to 3d.p.) |