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| Year 6ES | End of year expectations for mental calculation | End of year expectations for written methods and problem solving | Written strategies/ recordings/methods/images | Vocabulary& Links |
| Pupils will be taught to:* Perform mental calculations, including with mixed operations and large numbers.
* Use their knowledge of the order of operations to carry out calculations involving the four operations.
* Identify common factors, common multiples and prime numbers.
 | Pupils will* Solve problems involving addition, subtraction, multiplication and division
* Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
* Divide numbers up to 4 digits by a 2-digit whole number using the

formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context* Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context.
* *Pupils will practise division for larger numbers, using the formal written methods of short and long division.*

FRACTIONS• use common factors to simplify fractions,• compare and order fractions, including fractions > 1• add and subtract fractions with different  denominators and mixed numbers, using the concept  of equivalent fractions• divide proper fractions by whole numbers [for  example, 1/3 ÷2 = 1/6 .]• associate a fraction with division and calculate decimal  fraction equivalents [for example, 0.375.]*Pupils will use their understanding of the relationship**between unit fractions and division to work backwards. Use written division methods in cases where the answer has up to 2 dp.* | To introduce the long division model, use a calculation which can be represented both with manipulatives and by a short division algorithm. Use questioning and discussion to compare written methods. REVERT TO EXPANDED METHOD IF CHILDREN HAVE DIFFICULTY | *Pupils will be introduced to the division of decimal numbers by 1-digit whole number, initially, in practical contexts involving measures and money. They will recognise division as the inverse of multiplication.*• *Pupils also develop their skills of*  *rounding and estimating. This includes*  *rounding answers to a specified degree*  *of accuracy and checking the*  *reasonableness of their answers. (*FRACTIONS)• *Solve problems involving the calculation*  *and conversion of units of measure,*  *using decimal notation up to three*  *decimal places where appropriate.*• *Use, read, write and convert between*  *standard units….using decimal notation*  *to up to 3d.p. (MEASURES)*• *Interpret and construct pie charts and*  *line graphs and use these to solve*  *problems*• *Calculate and interpret the mean as an*  *average. (STATISTICS)*• *Solve problems involving the relative*  *sizes of two quantities where missing*  *values can be found by using integer* *multiplication and division facts (RATIO*  *AND PROPORTION)* |