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| Year 4  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 |
| Pupils should be taught to:   * Recall multiplication and division facts for multiplication tables up to 12 × 12 * Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers * Recognise and use factor pairs and commutativity in mental calculations | Pupils should be taught to:   * Multiply 2-digit and 3-digit numbers by a 1- digit number using formal written layout and use the inverse to develop division statements * Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by 1- digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.   *Pupils practise to become fluent in the formal written method of short multiplication and short division with exact answers and no remainders.*  FRACTIONS  *Pupils should be taught to:*   * *Recognise and show, using diagrams, families of common equivalent fractions* * *Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.* * *Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number* * *Find the effect of dividing a 1-or 2-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths* | 492 ÷ 4  .  Using known facts and blank arrays to  calculate 176÷8.      693÷3  Children can work in pairs: child A constructs the array (dividing manipulatives into 3 rows), child B checks it and records this in a formal, short division format  231  3 693  176÷8 = 22 | * Convert between different units of measure [for example, kilometre to metre; hour to minute] * Estimate, compare and calculate different measures, including money in pounds and pence (MEASURES) * Recognise that hundreths arise when dividing an object by one hundred and dividing tenths by ten.   (FRACTIONS) |