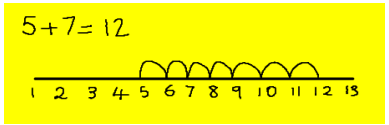
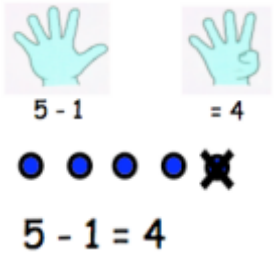
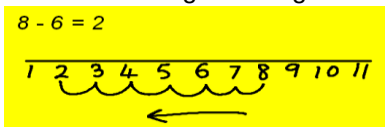
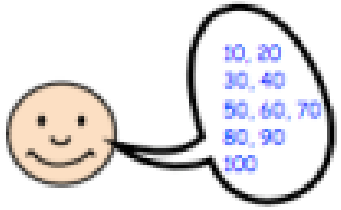
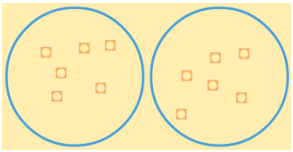
The Crossways Schools

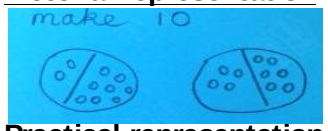
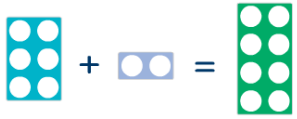
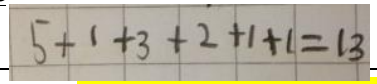
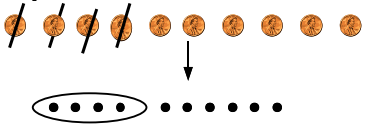
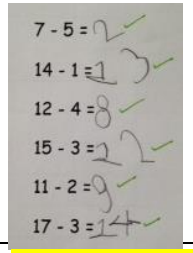
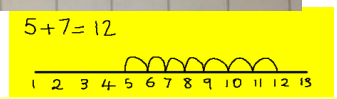
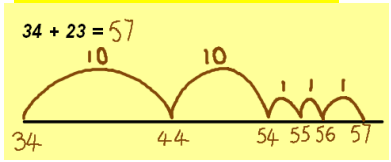
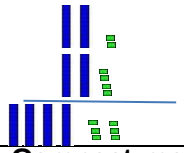
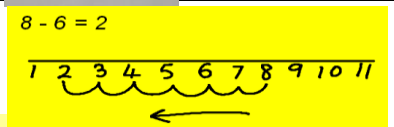
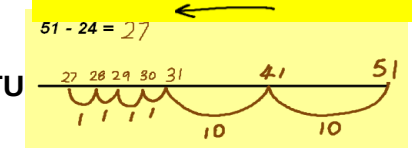
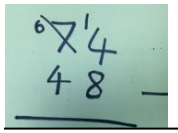
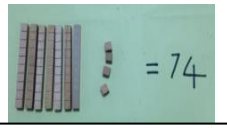
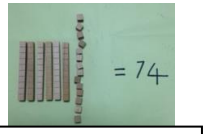
'Learning Together, Stronger Together'

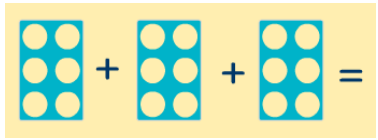
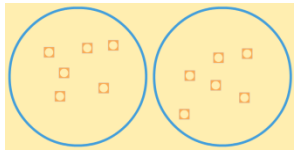
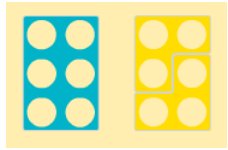
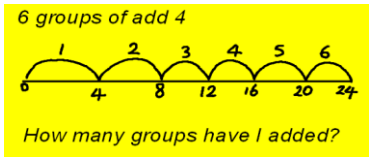
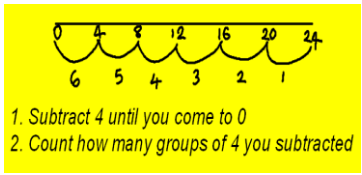
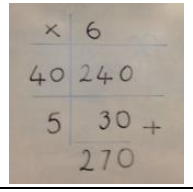
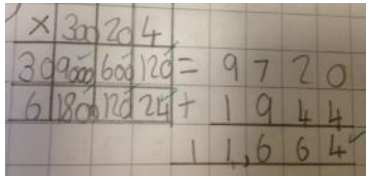
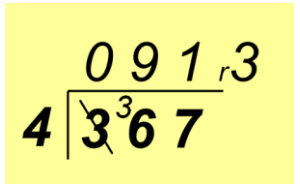
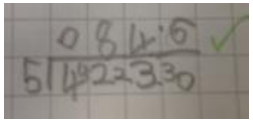
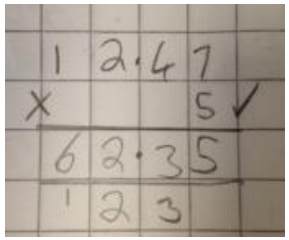
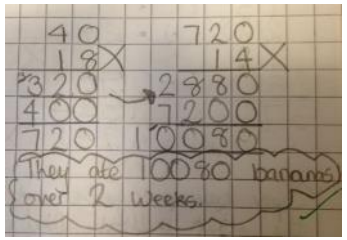
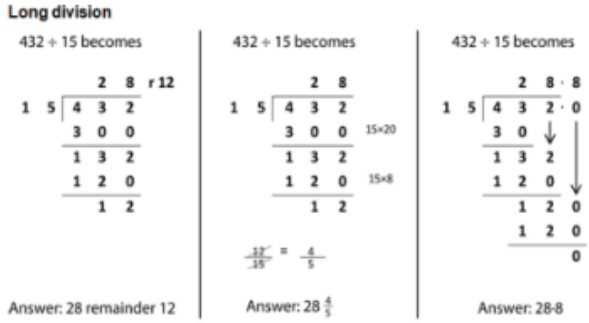
MENTAL AND WRITTEN CALCULATION POLICY

Calculation Guidelines for the Early Years Foundation Stage

Addition	Subtraction	Multiplication	Division
Begin to relate addition to combining two groups of objects. Make a record in pictures, words or symbols of addition activities already carried out. Construct number sentences to go with practical activities. Use games, songs and practical activities to introduce a range of addition vocabulary eg add, plus, and, combine, equals, altogether, total. Solve simple word problems using their fingers. 5 + 1 = 6 Can find one more to ten. Children progress to using a number line. They jump forwards above and along the number line using their finger.  	Begin to relate subtraction to 'taking away'. Relate subtraction to taking away and counting how many objects are left. Make a record in pictures, words or symbols of subtraction of activities already carried out. Construct number sentences to go with practical activities. Use games, songs and practical activities to introduce a range of subtraction vocabulary eg take away, subtract, minus, leaves.  Can find one less to ten. Children progress to using a number line. They jump backwards under the number line using their finger.  	Real life contexts and use of practical equipment to count in repeated groups of the same size. Count in twos; fives; tens. Chant in twos; fives; tens. Use a range of multiplication vocabulary eg multiply, times, makes.  	Share objects into equal groups. Activities might include: sharing of milk at break time; sharing activities in the home corner; separating a given number of objects into two groups (addition and subtraction objectives in EYFS being preliminary to multiplication and division).  Answer: How many times? and How many are left/left over? Use a range of related division vocabulary eg share, half, halve, divide.

Children begin to record in the context of play or practical activities and problems.

PROGRESSION	ADDITION	SUBTRACTION
Please see http://www.numicon.com/Index.aspx for how to use Numicon. Number tracks and printed number lines can also be used at this level to support calculation	**Pictorial representation**  **Practical representation**  **Number sentences**  	**Pictorial representation** **representation**  **Practical** **Number sentences** 
Use blank number line Teach to count on or back in tens first. Use diennes apparatus to demonstrate the value of digits.	**Number lines** **Add ones**  **Add tens** **Extend to using HTU**   **ALWAYS COUNT ABOVE THE LINE** 22 + 24 = 46	**Number lines** **Subtract ones**  **Subtract tens** **Extend to using HTU**  **ALWAYS COUNT BACKWARDS BELOW THE LINE**
Use expanded method to illustrate process if necessary.	**Compact method** 367 + 185 = 431 either 367 +185 12 140 400 552 or 300 + 60 + 7 100 + 80 + 5 400 +140+12 = 552 345 + 23 368 76 + 54 130 1 Extend to using with larger numbers and decimals.	**Compact method** 56 - 32 24 91 8 0 7 - 3 8 7 6 9    Use apparatus to model the exchange process.

PROGRESSION	MULTIPLICATION	DIVISION
Use the term equal	Pictorial representation Practical representation 	Pictorial representation Understanding a half   Use practical resources Moving from a concept of halving a shape to halving a small quantity
Using vocabulary 'groups of' when modelling process. You will count on in 'groups of…' or subtract in 'groups of….' Use the number line to model remainders, when moving from practical to abstract	Repeated addition 6 x 4 = 24  ALWAYS WRITE HOW MANY GROUPS ARE BEING ADDED	Repeated subtraction 24÷ 4= 6  ALWAYS WRITE HOW MANY GROUPS ARE SUBTRACTED
It is important that the layout of the grid method TUxU will support the layout of the compact addition method.	Grid method  	Compact method 1. Make clear links with multiplication by writing a fact box 2. Complete method   Extend to representing the remainder as a decimal or fraction.
Once pupils demonstrate a good understanding of place value and are proficient users of the grid method and number lines to multiply and divide, the compact methods need to be introduced to aid speed and accuracy.	Compact methods TUxU and TUxTU 37 x 6 = 222 (24)