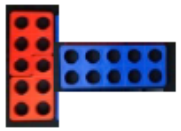
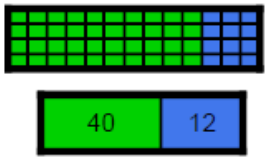
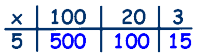
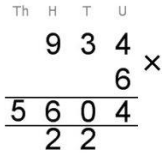
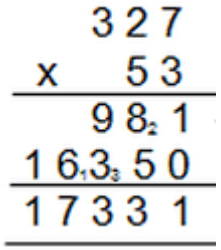
Hatch Warren Junior School Calculation Policy - Multiplication

End of year expectations	Year 3 Write and calculate mathematical statements for multiplication using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.	Year 4 Multiply two-digit and three-digit numbers by a one-digit number using formal written method.	Year 5 Multiply up to 4 digits by a one-digit or two-digit number using a formal written method, including long multiplication for two-digit numbers.	Year 6 Multiply up to 4 digits by a two-digit number using the formal written method of long multiplication.
Developing written methods (conceptual understanding) **Year 3 extra:** Understanding commutativity: 5 x 2 = 2 x 5 	1. Using an array to support understanding: So 13 x 4 = 10 x 4 + 3 x 4  Children should record their written method using partitioning: 13 x 4 10 x 4 = 40 3 x 4 = 12 52  2. Moving to grid method: 123 x 5  500 + 100 + 15 615 NB: Children need to be taught how to multiply by a multiple of 10 and 100	1. Show how the grid method relates to the expanded method: 13 x 4 13 X4 12 (3 x 4) 40 (10 x 4) 52 2. Move on to efficient method of short multiplication using formal written layout.  NB: Carrying MUST be underneath.	Securing formal method for multiplying by a one-digit and two-digit number:  NB: Carrying MUST be underneath the line you are working on.	Securing long multiplication method form Year 5. Using formal written methods to multiply a decimal by a one-digit number: e.g. 0.16 x 3 using short multiplication method. Understand how to multiply a decimal by a two or three digit number: e.g. 1.4 x 36 Multiply the 1.4 by 10 Complete calculation for 14 x 36. Divide the answer by 10.