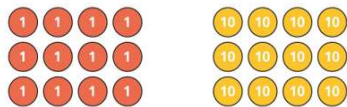
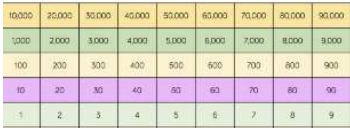
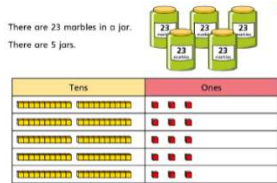
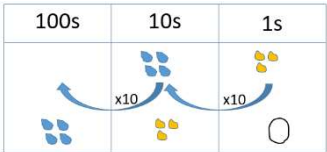
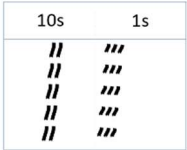
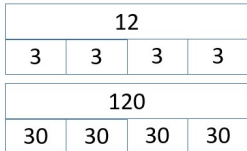
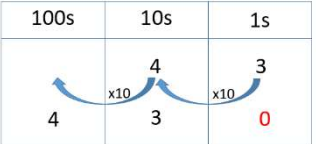
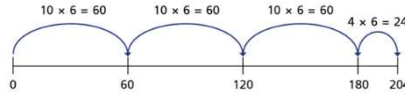
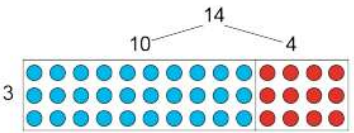
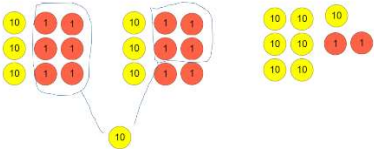
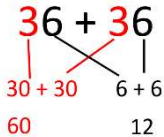


Primary Calculation Policy

Year 3 Multiplication

	Mental Strategies	Concrete	Pictorial	Abstract	Vocabulary	Models, Images and resources
Year 3	Recall and use multiplication facts for the 4, 8 and 3 multiplication tables Practise mental recall of x tables to improve fluency. Use doubling to connect the 2, 4 and 8 x tables. Use x facts to derive related facts and write mathematical statements e.g. using $3 \times 2 = 6$ to derive $30 \times 2 = 60$ Develop efficient mental methods using commutativity e.g. $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$ Double any two-digit number, e.g. double 39 and any multiple of 5, 10 or 100, e.g. double 340, double 800.	<u>Consolidate 2, 5 10 times table</u> Please see Y2 examples <u>4, 8 then 3 times table</u> Please see Y2 examples as they hold the same principles <u>Make connections x10</u> 4×3, 4×30, 4×300 – use counters  Also use the Gattegno Chart to help  <u>Simple 2 digit by one digit</u> Use dienes or counters 	<u>Consolidate 2, 5 10 times table</u> Please see Y2 examples <u>4, 8 then 3 times table</u> Please see Y2 examples as they hold the same principles <u>Make connections x10</u> $4 \times 30 = 120$ – draw it Draw on a place value grid  <u>Simple 2 digit by one digit</u> Draw it in a grid 	<u>Consolidate 2, 5 10 times table</u> Please see Y2 examples <u>4, 8 then 3 times table</u> Please see Y2 examples as they hold the same principles <u>Make connections x10</u> $4 \times 3 = 12$ $4 \times 30 = 120$  Use place value grid  <u>Simple 2 digit by one digit</u> 23×5 $23 \times 5 = 20 \times 5 + 3 \times 5$ $= 100 + 15$ $= 115$ 	Lots of Groups of Times Repeated addition Double Sets Groups, Pairs Array symbol x times as big ...as wide ...as long factor product	100 square Number lines Number tracks Bead strings (for children) Bead bar Tens Frame Numicon Place Value Disks Cuisenaire Base hundreds tens and ones Arrow Cards Gattegno chart Place Value Grid

Multiply one-digit or two-digit numbers by 10 or 100 and understand the effect e.g. 7×100, 46×10, 54×100 Know the vocabulary below Factor multiplied by factor equals product factor product 6 x 4 = 24 factor	 <u>Doubling all two digit numbers</u> 	<u>Doubling all two digit numbers</u> 	14×3 $14 \times 3 = 10 \times 3 + 4 \times 3$ $= 30 + 12$ $= 42$ <u>Doubling all two digit numbers</u> 	multiple ten times the size hundred times the size a tenth the size a hundredth the size	
Useful IWB links for manipulatives	Solve problems in context decide which operation to use and why, including missing number problems integer scaling problems eg double or treble 50p or 5 x 60cm Correspondence problems in which m objects are connected to n objects eg finding all possibilities '3 hats and 4 coats, how many different outfits?' Understand multiplication represented as an array and the concept of commutativity. "The order of the factors does not affect the product."  7 groups of 2 2 groups of 7 $7 \times 2 = 14$ $2 \times 7 = 14$ $7 \times 2 = 2 \times 7$ https://www.coolmath4kids.com/manipulatives/base-ten-blocks https://mathsbot.com/manipulatives/placeValueCounters https://mathsbot.com/manipulatives/bar https://classroomsecrets.co.uk/free-year-1-part-whole-model-iwb-addition-and-subtraction-activity/ https://www.nctm.org/Classroom-Resources/Illuminations/Interactives/Ten-Frame/ http://www.ictgames.com/mobilePage/tenFrame/index.html				