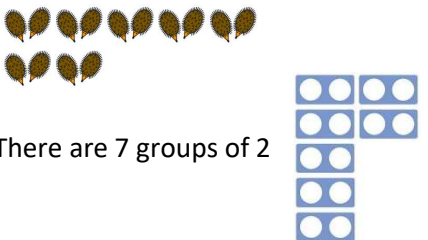
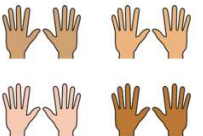
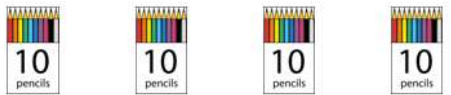
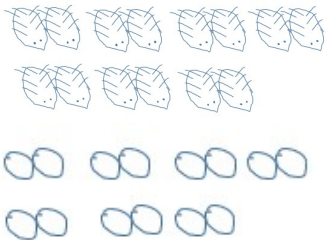
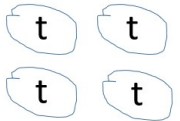
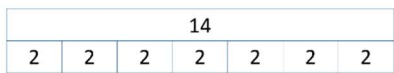
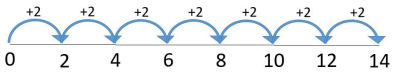
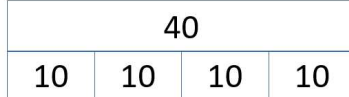
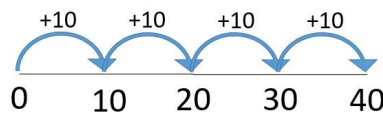


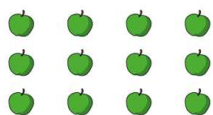
Primary Calculation Policy

Year 1 Multiplication

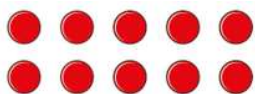
	Mental Strategies	Concrete	Pictorial	Abstract	Vocabulary	Models, Images and resources
Year 1	Count on from and back to zero in ones, twos, fives or tens Make connections between arrays, number patterns, and counting in twos, fives and tens.	<u>Repeated Addition – Counting in 2s</u> Use images of different objects  There are 7 groups of 2 <u>Repeated addition – Counting in Tens</u> Use images of different objects – including numicon  4 groups of 10 (fingers and thumbs)  4 groups of 10 pens <u>Repeated addition – Counting in Fives</u> Please follow the guidance from counting in 2s and 10s – exactly the same principle	<u>Repeated Addition - – Counting in 2s</u> Draw the objects  There are 7 groups of 2 <u>Repeated addition – Counting in Tens</u> Draw the objects  4 groups of ten (t represents ten)  Avoid pupils drawing out ALL ten objects 4 times. <u>Repeated addition – Counting in Fives</u> Please follow the guidance from counting in 2s and 10s – exactly the same principle	<u>Repeated Addition - – Counting in 2s</u> Can use bar model, number line and equation   $2 + 2 + 2 + 2 + 2 + 2 + 2 = 14$ <u>Repeated addition – Counting in Tens</u> As above   $10 + 10 + 10 + 10 = 40$ <u>Repeated addition – Counting in Fives</u> Please follow the guidance from counting in 2s and 10s – exactly the same principle	Lots of Groups of Times Repeated addition Double Sets Groups, Pairs Array	100 square Number lines Number tracks Bead strings (for children) Bead bar Tens Frame Numicon Place Value Disks Cuisenaire Base tens and ones

Using arrays

Explain the language of columns and rows. Use concrete apparatus.



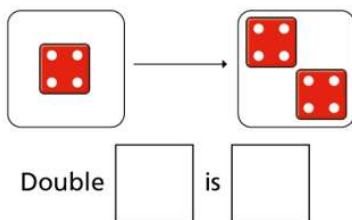
There are 3 apples in each column.
There are 4 columns.
There are 12 apples altogether.



There are 5 counters in each row.
There are 2 rows.
There are 10 counters altogether.

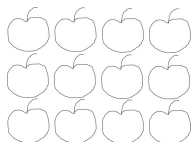
Doubling

Use lots of different manipulatives to support doubling numbers



Using arrays

Explain the language of columns and rows. Children can draw the arrays



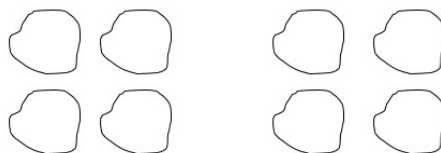
There are 3 apples in each column.
There are 4 columns.
There are 12 apples altogether.



There are 5 counters in each row.
There are 2 rows.
There are 10 counters altogether.

Doubling

Children can draw it



Using arrays

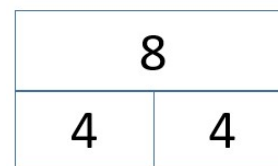
Explain the language of columns and rows

$$3 + 3 + 3 + 3 = 12$$

$$5 + 5 = 10$$

Doubling

Use a bar model and equation



$$4 + 4 = 8$$

Solve simple one-step problems, calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. Understanding multiplication as an array: see above.

Practical problem solving activities involving equal sets or groups. Through grouping small quantities, pupils should begin to understand multiplication; doubling numbers and quantities.

Useful IWB links for manipulatives

<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>