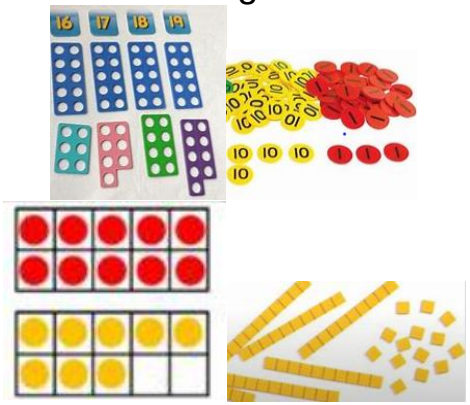
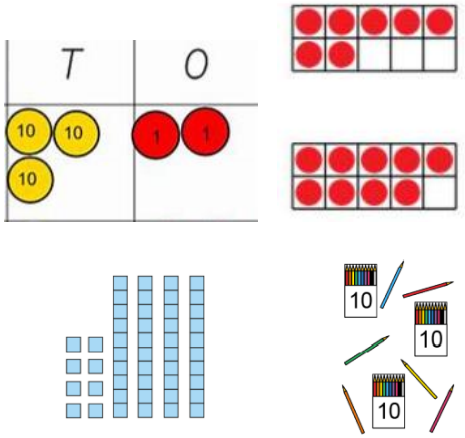
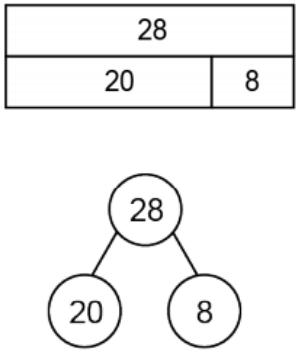
Year 2 Orange

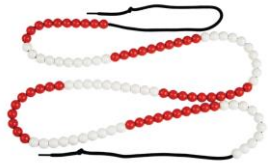
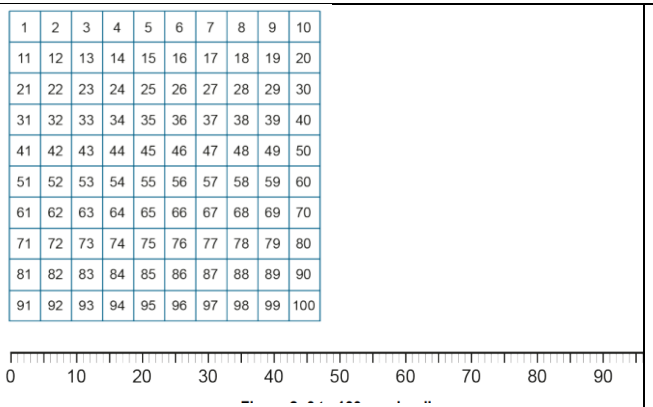
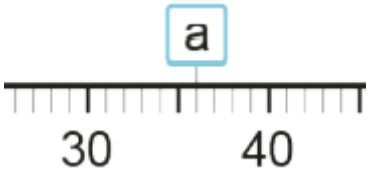
Hugglescote Calculation Policy

Progression in Calculations at Hugglescote- reviewed 2021 (with reference to 2020 Ready to Progress Government Guidance and other local schools)

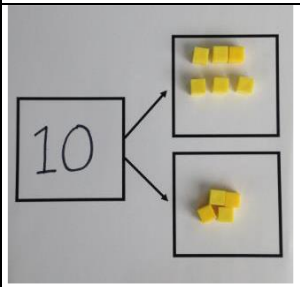
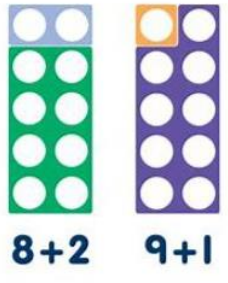
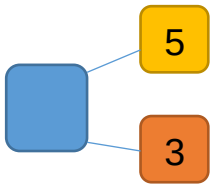
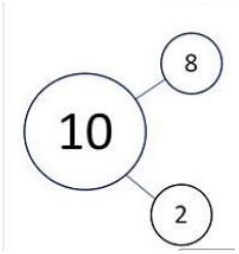
Number and Place Value

Objective and link to RTP criteria	Concrete	Pictorial	Abstract
Know the place value of 2 digit numbers Year 2NPV–1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and nonstandard partitioning.	Children use Numicon, place value counters, 10s frames and Base 10 to explore the value of 2 digit numbers 	Use pictures of Base 10, 10s frames and place value counters to represent the place value of 2 digit numbers. 	Use Part Whole models and bar models to show how 2 digit numbers can be partitioned. 
Find a number on a number line and identify the previous and next multiple of 10 for a 2 digit number.	Count forward and back to 100 using 100 squares, number lines and bead strings. Choose a number and use these items to help children find the 10 before and the 10 after.	Use a 100 square and numberlines to find a 2 digit number and to find the 10 before and the 10 after.	Reason about the location of a 2 digit number on a number line

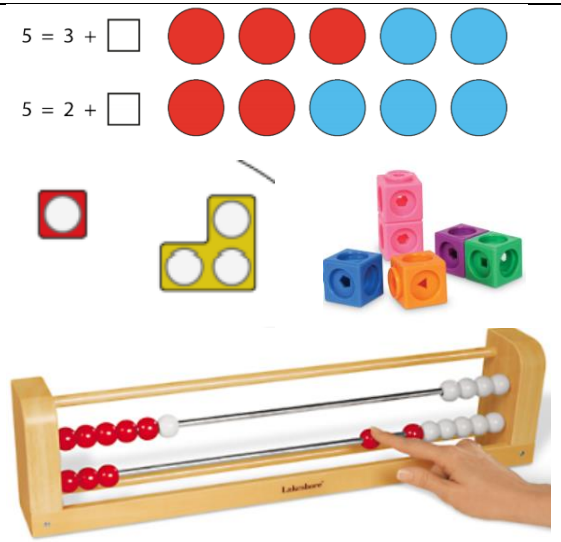
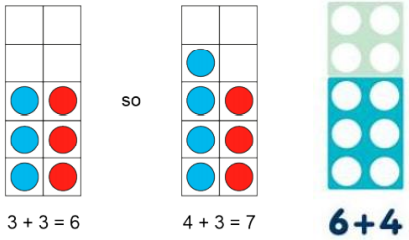
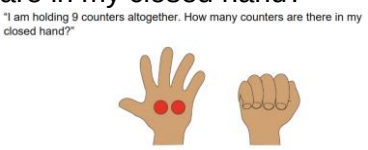
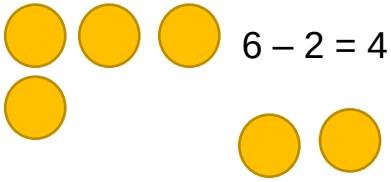
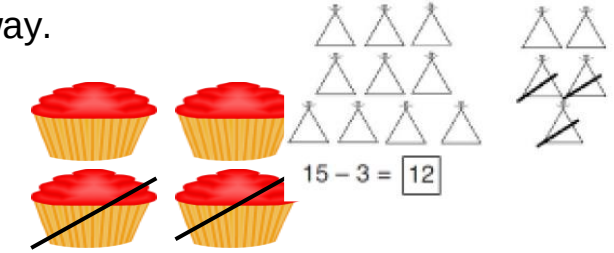
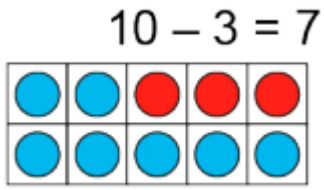
Year 2 Orange

Year 2 NPV -2 Reason about the location of any two digit number in the linear number system, including identifying the previous and next multiple of 10.			

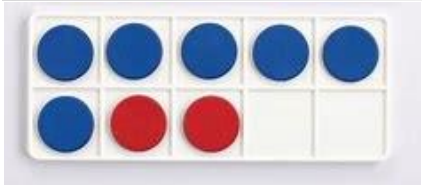
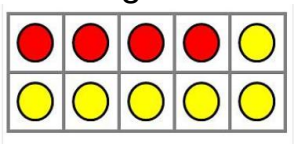
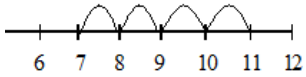
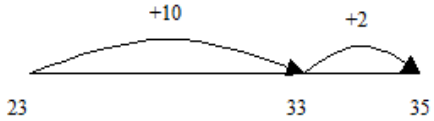
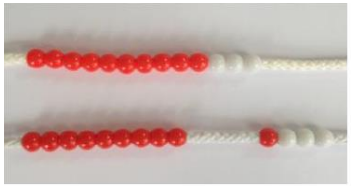
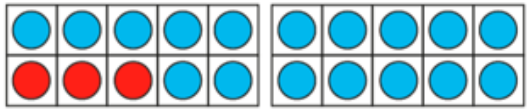
Addition and Subtraction

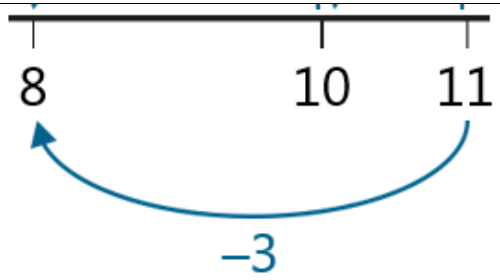
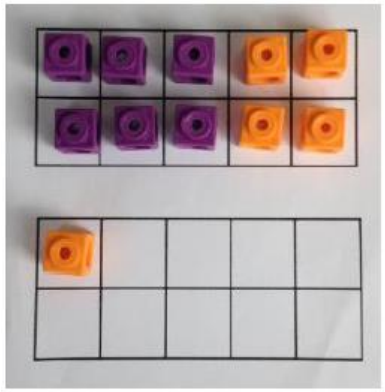
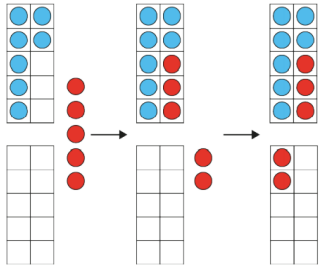
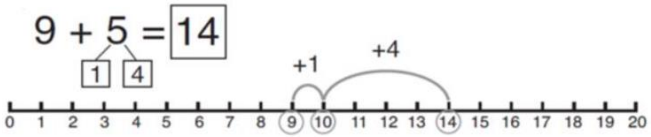
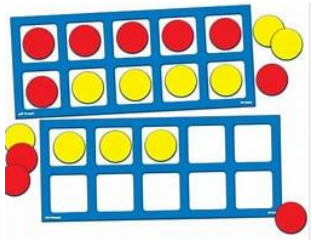
Objective and link to RTP criteria	Concrete	Pictorial	Abstract
Combine two parts to make numbers up to ten Year 2 NF–1 Secure fluency in addition and subtraction facts within 10, through continued practice.	  	  	8 + 1= 9 9 = 8+ 1 

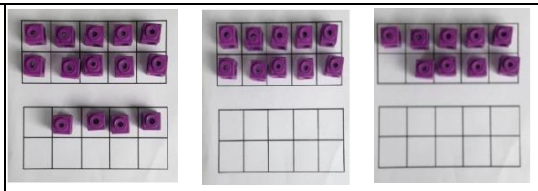
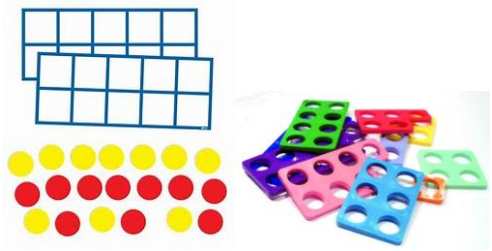
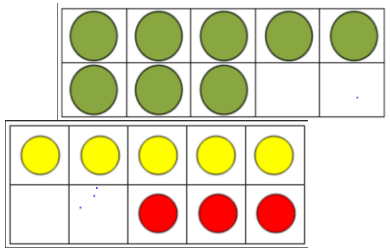
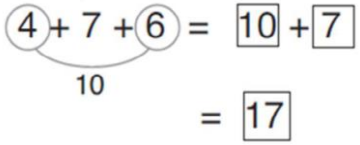
Year 2 Orange

Adding ones (How many altogether?) Year 2 AS–1 Add and subtract across 10.		Children use pictures of 10s frames, bar models, part part whole models and Numicon to add ones and to use known facts to work out unknown facts. 	Children should be able to use knowledge of adding and subtracting ones to find missing numbers. e.g. I have 9 counters. How many are in my closed hand? 
Taking away ones Year 2 AS–1 Add and subtract across 10.	  	Cross out drawn objects to show what has been taken away.  Use pictures of 10s frames to help children understand taking away. 	Children can complete subtractions. 18 – 3 = = 8 – 2 Children can find missing numbers. 9 - ___ = 4

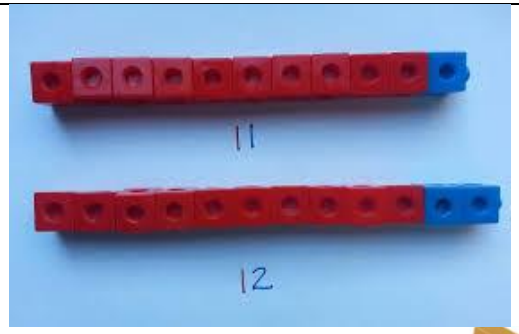
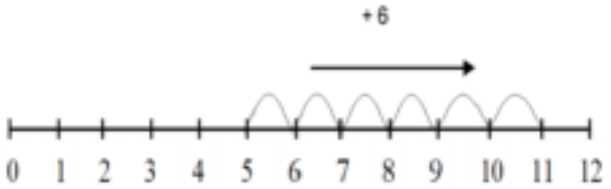
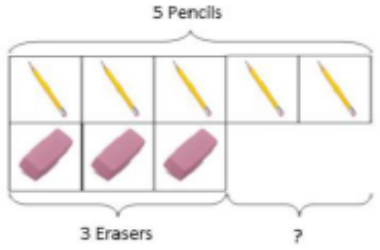
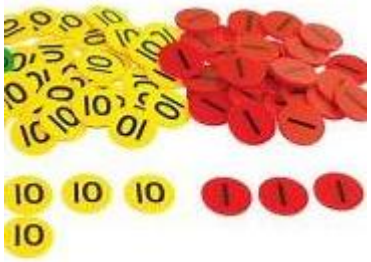
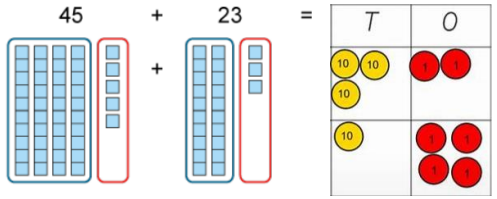
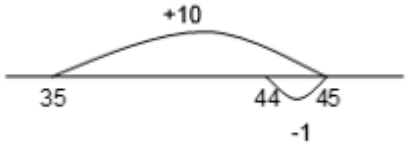
Year 2 Orange

Counting on Year 2 AS–1 Add and subtract across 10.	Start with the larger number and then count on to the smaller number 1 by 1 to find the answer.   	Use pictures of 10s frames to help counting on and use number lines.  4 + 6 = Count on in ones on a number line.Jumps on top fro counting on.  Then count on in tens and then ones. 	Record in jottings using number lines. Record on printed marked number lines and do their own jottings of number lines. Record counting on above the line and using addition sign. Place the larger number in your head and count on the smaller number to find your answer.
Counting back Year 2 AS–1 Add and subtract across 10.	Make the larger number in your subtraction. Move the beads as you count backwards in ones.  Use counters and move them away from the group as you take them away counting backwards as you go.	20 – 3 =17  Use pictures of 10s frames to help counting back. Count back in ones on a number line.	Record in jottings using number lines. Record on printed marked number lines and do their own jottings of number lines. Record counting back below the line and using subtraction sign. Place the larger number in your head and count back the smaller number to find your answer.

		 Then count back in tens and then ones.	
Regrouping to add Year 2 AS–1 Add and subtract across 10. Year 3 NF–1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.	Use 10s frames with cubes or counters to show regrouping to make 10 when adding. 	 Use pictures of 10s frames to show regrouping to make 10 and use number lines. 	Use regrouping to make 10 to work out answers to additions. 7 + 4= 11 If I am at seven, how many more do I need to make 10. How many more do I add on now?
Regrouping to subtract Year 2 AS–1 Add and subtract across 10. Year 3 NF–1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.	Use 10s frames with cubes or counters to show regrouping to make 10 when subtracting. 14 – 5 =	Use pictures of 10s frames to show regrouping to make 10 and use number lines. 	Use regrouping to make 10 to work out answers to subtractions. 16 – 8= How many do we take off to reach the next 10?

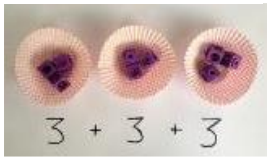
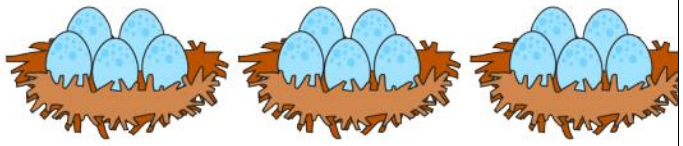
	 Make 14 on the ten frame. Take away the four first to make 10 and then takeaway one more so you have taken away 5. You are left with the answer of 9.	Start at 13. Take away 3 to reach 10. Then take away the remaining 4 so you have taken away 7 altogether. You have reached your answer.	How many do we have left to take off?
Adding three single digits using regrouping Year 2 AS–1 Add and subtract across 10.	Add three digits by regrouping to make10 (if possible) then add on the third digit. 4 + 7 + 6= 17 Put 4 and 6 together to make 10. Add on 7. 	Show 10s frames to illustrate examples of regrouping to make 10. 8 + 5 + 3 = 8 + 2 + 5 + 1 = 10 + 5 + 1  Show examples of regrouping to make 10 then adding the third digit. 	Add three digits by regrouping to make10 (if possible) then add on the third digit. Solve additions such as: 6 + 5 + 4 = 7 + 9 + 3 =

Year 2 Orange

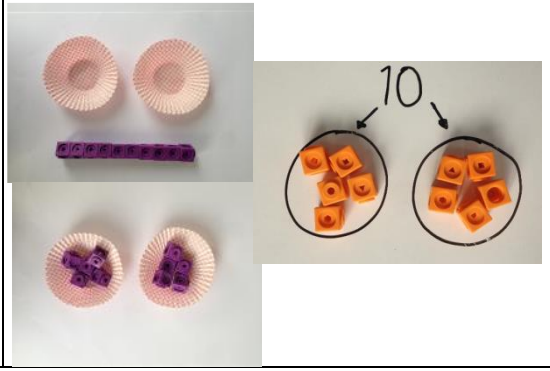
Find the difference by comparing two amounts Year 2 AS–2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?"	 	Use number lines to show counting on to find the difference and bar models to show comparison to find the difference.  	Children are able to compare amounts and find the difference. Children could use number lines to count on as jottings. Children can answer questions such as: Hannah has 23 sandwiches, Helen has 15 sandwiches. Find the difference between the number of sandwiches.
Add and subtract within 100 (adjust for near multiples of 10) Year 2 AS–4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two digit numbers.	Use Base 10 and place value counters for children to practically add and subtract within 100.  	Use pictures of Base 10 and place value counters to help children to add and subtract within 100.  Use 100 squares and numberlines to help children to count forward or back within 100. Add near multiples of 10 by adjusting.  	Children can use related one digit addition and subtraction facts to aid addition and subtraction of larger numbers. $45 - 3 - 20 = 42 - 20$ $= 22$ $45 - 23 = 45 - 3 - 20$ $= 42 - 20$ $= 22$

Year 2 Orange

Multiplication and Division

Objective and link to RTP criteria	Concrete	Pictorial	Abstract
Understand multiplication as repeated equal groups Year 2 MD–2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	Use different objects, including Numicon and cubes to add equal groups.   	Children are shown pictures to help them to understand multiplication as repeated adding of equal groups/ counting on of equal groups. Children could draw as simple jottings.  5 + 5 + 5 = 3 x 5 = 5, 10, 15	Children can count in multiples to find a number when they know how many equal groups there are. e.g. 4 children have 3 marbles each. How many marbles? 3, 6, 9, 12…. So 12 marbles 4 x 3 = 12

Year 2 Orange

Sharing objects into groups Year 2 MD–2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	Share into equal groups. Count in equal groups up to the number being shared to find how many groups. 	Children are shown pictures to help them to share quantities. Children could draw as simple jottings.  8 ÷ 2 = 4	Children can count in multiples to find how many groups a number can be shared into. e.g. Share 9 buns between three people. 3, 6, 9 …. So 3 groups 9 ÷ 3 = 3