Leamington Hastings C of E Academy
Mathematics Curriculum – fluency progression

This document details the mathematical facts that children will be able to recall fluently by the end of each year group. Children will be given opportunity to explore these facts through direct teaching and the use of manipulatives before learning how to recall them facts mentally.

	Nursery Rising 3s	Nursery Pre-School	Reception	Year 1	Year 2
Counting and place value	Subitise to 3 using a dice face arrangement	Subitise to 6 using a dice face arrangement	Subitise to 10 using numicon / 5s frame / 10s frame arrangement	Can mentally recognise arrangements using numicon and tens frames to 20	Knows 1 more and 1 less than a number to 100
	Count forwards in ones to 5 (rote)	Count forwards and backwards in ones to 5 (rote)	Counts forwards and backwards in ones to 10	Counts forwards and backwards in ones to 100	Knows 10 more and 10 less to 100
		Count forwards in ones to 10 (rote)	Counts forwards and backwards in ones to 20	Knows 1 more and 1 less than a number to 20	Count forwards and backwards in 2s, 3s and 5s starting from 0
			Knows 1 more and 1 less than a number to 10	Count forwards in 2s, 5s and 10s 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 20, 18, 16, 14, 12, 10, 8, 6, 4, 2, 0 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 50, 45, 40, 35, 30, 25, 20, 15, 10, 5, 0 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 100, 90, 80, 70, 60, 50, 40, 30, 20, 10, 0	Count forwards and backwards in 10s starting from any single or two digit number e.g. 4, 14, 24, 34, 44, 54, 64, 74, 84, 94, 104 93, 83, 73, 63, 53, 43, 33, 23, 13, 3

Odd and even		Recognise odd and even numbers using visual representations e.g. tens frames or numicon	Recognise odd and even numbers mentally, knowing that numbers that end in 2, 4, 6, 8 or 0 and numbers that end in a 1, 3, 5, 7 or 9 are odd	
Number bonds		Number bonds to 1 0 + 1 = 1 1 – 1 = 0 1 + 0 = 1 1 – 0 = 1	Number bonds to 6 0 + 6 = 6 6 – 6 = 0 1 + 5 = 6 6 – 5 = 1 2 + 4 = 6 6 – 4 = 2 3 + 3 = 6 6 – 3 = 3 4 + 2 = 6 6 – 2 = 4 5 + 1 = 6 6 – 1 = 5 6 + 0 = 6 6 – 0 = 6	Number bonds to 11 0 + 11 = 11 11 – 11 = 0 1 + 10 = 11 11 – 10 = 1 2 + 9 = 11 11 – 9 = 2 3 + 8 = 11 11 – 8 = 3 4 + 7 = 11 11 – 7 = 4 5 + 6 = 11 11 – 6 = 5 6 + 5 = 11 11 – 5 = 6 7 + 4 = 11 11 – 4 = 7 8 + 3 = 11 11 – 3 = 8 9 + 2 = 11 11 – 2 = 9 10 + 1 = 11 11 – 1 = 10 11 + 0 = 11 11 – 0 = 11
		Number bonds to 2 0 + 2 = 2 2 – 2 = 0 1 + 1 = 2 2 – 1 = 1 2 + 0 = 2 2 – 0 = 2	Number bonds to 7 0 + 7 = 7 7 – 7 = 0 1 + 6 = 7 7 – 6 = 1 2 + 5 = 7 7 – 5 = 2 3 + 4 = 7 7 – 4 = 3 4 + 3 = 7 7 – 3 = 4 5 + 2 = 7 7 – 2 = 5 6 + 1 = 7 7 – 1 = 6 7 + 0 = 7 7 – 0 = 7	Number bonds to 12 0 + 12 = 12 12 – 12 = 0 1 + 11 = 12 12 – 11 = 1 2 + 10 = 12 12 – 10 = 2 3 + 9 = 12 12 – 9 = 3 4 + 8 = 12 12 – 8 = 4 5 + 7 = 12 12 – 7 = 5 6 + 6 = 12 12 – 6 = 6 7 + 5 = 12 12 – 5 = 7 8 + 4 = 12 12 – 4 = 8 9 + 3 = 12 12 – 3 = 9 10 + 2 = 12 12 – 2 = 10 11 + 1 = 12 12 – 1 = 11 12 + 0 = 12 12 – 0 = 12
		Number bonds to 3	Number bonds to 8	Number bonds to 13

		0 + 3 = 3 3 – 3 = 0 1 + 2 = 3 3 – 2 = 1 2 + 1 = 3 3 – 1 = 2 3 + 0 = 3 3 – 0 = 3	0 + 8 = 8 8 – 8 = 0 1 + 7 = 8 8 – 7 = 1 2 + 6 = 8 8 – 6 = 2 3 + 5 = 8 8 – 5 = 3 4 + 4 = 8 8 – 4 = 4 5 + 3 = 8 8 – 3 = 5 6 + 2 = 8 8 – 2 = 6 7 + 1 = 8 8 – 1 = 7 0 + 8 = 8 8 – 8 = 0	0 + 13 = 13 13 – 13 = 0 1 + 12 = 13 13 – 12 = 1 2 + 11 = 13 13 – 11 = 2 3 + 10 = 13 13 – 10 = 3 4 + 9 = 13 13 – 9 = 4 5 + 8 = 13 13 – 8 = 5 6 + 7 = 13 13 – 7 = 6 7 + 6 = 13 13 – 6 = 7 8 + 5 = 13 13 – 5 = 8 9 + 4 = 13 13 – 4 = 9 10 + 3 = 13 13 – 3 = 10 11 + 2 = 13 13 – 2 = 11 12 + 1 = 13 13 – 1 = 12 13 + 0 = 13 13 – 0 = 13
		Number bonds to 4 0 + 4 = 4 4 – 4 = 0 1 + 3 = 4 4 – 3 = 1 2 + 2 = 4 4 – 2 = 2 3 + 1 = 4 4 – 1 = 3 4 + 0 = 4 4 – 0 = 4	Number bonds to 9 0 + 9 = 9 9 – 9 = 0 1 + 8 = 9 9 – 8 = 1 2 + 7 = 9 9 – 7 = 2 3 + 6 = 9 9 – 6 = 3 4 + 5 = 9 9 – 5 = 4 5 + 4 = 9 9 - 4 = 5 6 + 3 = 9 9 – 3 = 6 7 + 2 = 9 9 – 2 = 7 8 + 1 = 9 9 – 1 = 8 9 + 0 = 9 9 – 0 = 9	Number bonds to 14 0 + 14 = 14 14 – 14 = 0 1 + 13 = 14 14 – 13 = 1 2 + 12 = 14 14 – 12 = 2 3 + 11 = 14 14 – 11 = 3 4 + 10 = 14 14 – 10 = 4 5 + 9 = 14 14 – 9 = 5 6 + 8 = 14 14 – 8 = 6 7 + 7 = 13 14 – 7 = 7 8 + 6 = 14 14 – 6 = 8 9 + 5 = 14 14 – 5 = 9 10 + 4 = 14 14 – 4 = 10 11 + 3 = 14 14 – 3 = 11 12 + 2 = 14 14 – 2 = 12 13 + 1 = 14 14 – 1 = 13 14 + 0 = 14 14 – 0 = 14
		Number bonds to 5 0 + 5 = 5 5 – 5 = 0 1 + 5 = 5 5 – 4 = 1 2 + 3 = 5 5 – 3 = 2 3 + 2 = 5 5 – 2 = 3	Number bonds to 10 0 + 10 = 10 10 – 10 = 0 1 + 9 = 10 10 – 9 = 1 2 + 8 = 10 10 – 8 = 2 3 + 7 = 10 10 – 7 = 3	Number bonds to 15 0 + 15 = 15 15 – 15 = 0 1 + 14 = 15 15 – 14 = 1 2 + 13 = 15 15 – 13 = 2 3 + 12 = 15 15 – 12 = 3

		4 + 1 = 5 5 – 1 = 4 5 + 0 = 5 5 – 0 = 5	4 + 6 = 10 10 – 6 = 4 5 + 5 = 10 10 – 5 = 5 6 + 4 = 10 10 – 4 = 6 7 + 3 = 10 10 – 3 = 7 8 + 2 = 10 10 – 2 = 8 9 + 1 = 10 10 – 1 = 9 10 + 0 = 10 10 – 0 = 10	4 + 11 = 15 15 – 11 = 4 5 + 10 = 15 15 – 10 = 5 6 + 9 = 15 15 – 9 = 6 7 + 8 = 15 15 – 8 = 7 8 + 7 = 15 15 – 7 = 8 9 + 6 = 15 15 – 6 = 9 10 + 5 = 15 15 – 5 = 10 11 + 4 = 15 15 – 4 = 11 12 + 3 = 15 15 – 3 = 12 13 + 2 = 15 15 – 2 = 13 14 + 1 = 15 15 – 1 = 14 15 + 0 = 15 15 – 0 - 15
		Some number bonds to 10 0 + 10 = 10 10 – 10 = 0 1 + 9 = 10 10 – 9 = 1 2 + 8 = 10 10 – 8 = 2 3 + 7 = 10 10 – 7 = 3 4 + 6 = 10 10 – 6 = 4 5 + 5 = 10 10 – 5 = 5 6 + 4 = 10 10 – 4 = 6 7 + 3 = 10 10 – 3 = 7 8 + 2 = 10 10 – 2 = 8 9 + 1 = 10 10 – 1 = 9 10 + 0 = 10 10 – 0 = 10		Number bonds to 16 0 + 16 = 16 16 – 16 = 0 1 + 15 = 16 16 – 15 = 1 2 + 14 = 16 16 – 14 = 2 3 + 13 = 16 16 – 13 = 3 4 + 12 = 16 16 – 12 = 4 5 + 11 = 16 16 – 11 = 5 6 + 10 = 6 16 – 10 = 6 7 + 9 = 16 16 – 9 = 7 8 + 8 = 16 16 – 8 = 8 9 + 7 = 16 16 – 7 = 9 10 + 6 = 16 16 – 6 = 10 11 + 5 = 16 16 – 5 = 11 12 + 4 = 16 16 – 4 = 12 13 + 3 = 16 16 – 3 = 13 14 + 2 = 16 16 – 2 = 14 15 + 1 = 16 16 – 1 = 15 16 + 0 = 16 16 – 0 = 16
				Number bonds to 17 0 + 17 = 17 17 – 17 = 0 1 + 16 = 17 17 – 16 = 1 2 + 15 = 17 17 – 15 = 2 3 + 14 = 17 17 – 14 = 3 4 + 13 = 17 17 – 13 = 4

		5 + 12 = 17 17 – 12 = 5 6 + 11 = 17 17 – 11 = 6 7 + 10 = 17 17 - 10 = 7 8 + 9 = 17 17 – 9 = 8 9 + 8 = 17 17 – 8 = 9 10 + 7 = 17 17 – 7 = 10 11 + 6 = 17 17 – 6 = 11 12 + 5 = 17 17 – 5 = 12 13 + 4 = 17 17 – 4 = 13 14 + 3 = 17 17 – 3 = 14 15 + 2 = 17 17 – 2 = 15 16 + 1 = 17 17 – 1 = 16 17 + 0 = 17 17 – 0 = 17
		Number bonds to 18 18 + 0 = 18 18 – 0 = 18 17 + 1 = 18 18 – 1 = 17 16 + 2 = 18 18 – 2 = 16 15 + 3 = 18 18 – 3 = 15 14 + 4 = 18 18 – 4 = 14 13 + 5 = 18 18 – 5 = 13 12 + 6 = 18 18 – 6 = 12 11 + 7 = 18 18 – 7 = 11 10 + 8 = 18 18 – 8 = 10 9 + 9 = 18 18 – 9 = 9 8 + 10 = 18 18 – 10 = 8 7 + 11 = 18 18 – 11 = 7 6 + 12 =18 18 – 12 = 6 5 + 13 = 18 18 – 13 = 5 4 + 14 = 18 18 – 14 = 4 3 + 15 = 18 18 – 15 = 3 2 + 16 = 18 18 – 16 = 2 1 + 17 = 18 18 – 17 = 1 0 + 18 = 18 18 – 18 = 0
		Number bonds to 19 19 + 0 = 19 19 – 0 = 19

		18 + 1 = 19 19 – 1 = 18 17 + 2 = 19 19 – 2 = 17 16 + 3 = 19 19 – 3 = 16 15 + 4 = 19 19 – 4 = 15 14 + 5 = 19 19 – 5 = 14 13 + 6 = 19 19 – 6 = 13 12 + 7 = 19 19 – 7 = 12 11 + 8 = 19 19 – 8 = 11 10 + 9 = 19 19 – 9 = 10 9 + 10 = 19 19 – 10 = 9 8 + 11 = 19 19 – 11 = 8 7 + 12 = 19 19 – 12 = 7 6 + 13 = 19 19 – 13 = 6 5 + 14 = 19 19 – 14 = 5 4 + 15 = 19 19 – 15 = 4 3 + 16 = 19 19 – 16 = 3 2 + 17 = 19 19 – 17 = 2 1 + 18 = 19 19 – 18 = 1 0 + 19 = 19 19 – 19 = 0
		Number bonds to 20 0 + 20 = 20 20 – 20 = 0 1 + 19 = 20 20 – 19 = 1 2 + 18 = 20 20 – 18 = 2 3 + 17 = 20 20 – 17 = 3 4 + 16 = 20 20 – 16 = 4 5 + 15 = 20 20 – 15 = 5 6 + 14 = 20 20 – 14 - 6 7 + 13 = 20 20 – 13 = 7 8 + 12 = 20 20 – 12 = 8 9 + 11 = 20 20 – 11 = 9 10 + 10 = 20 20 – 10 = 10 11 + 9 = 20 20 – 9 = 11 12 + 8 = 20 20 – 8 = 12 13 + 7 = 20 20 – 7 - 13 14 + 6 = 20 20 – 6 = 14 15 + 5 = 20 20 – 5 = 15

				16 + 4 = 20 20 – 4 = 16 17 + 3 = 20 20 – 4 = 17 18 + 2 = 20 20 – 2 = 18 19 + 1 = 20 20 – 1 = 19 20 + 0 = 20 20 – 0 = 20 Number bonds to 100 (multiples of 10) 0 + 100 = 100 100 – 100 = 0 10 + 90 = 100 100 – 90 = 10 20 + 80 = 100 100 – 80 = 20 30 + 70 = 100 100 – 70 = 30 40 + 60 = 100 100 – 60 = 40 50 + 50 = 100 100 – 50 = 50 60 + 40 = 100 100 – 40 = 60 70 + 30 = 100 100 – 30 = 70 80 + 20 = 100 100 – 20 = 80 90 + 10 = 100 100 – 10 = 90 100 + 0 = 100 100 – 0 = 100 Make links between number bonds to 10, 20 and 100 0 + 10 = 10 0 + 20 = 20 10 + 10 = 20 0 + 100 = 100 1 + 9 = 10 1 + 19 = 20 11 + 9 = 20 10 + 90 = 100 2 + 8 = 10 2 + 18 = 20 18 + 2 = 20 20 + 80 = 100 3 + 7 = 10 3 + 17 = 20 17 + 3 = 20 30 + 70 = 100 4 + 6 = 10 4 + 16 = 20 16 + 4 = 20 40 + 60 = 100 5 + 5 = 10 5 + 15 = 20 15 + 5 = 20 50 + 50 = 100 6 + 4 = 10 6 + 14 = 20 14 + 6 = 20 60 + 40 = 100 7 + 3 = 10 7 + 13 = 20 13 + 7 = 20 70 + 30 = 100 8 + 2 = 10 8 + 12 = 20 12 + 8 = 20 80 + 20 = 100 9 + 1 = 10 9 + 11 = 20 11 + 9 = 20 90 + 10 = 100 10 + 0 = 10 10 + 10 = 20 100 + 0 = 100
Doubles and halves		Doubles to 10 Double 1 = 2 Double 2 = 4 Double 3 = 6 Double 4 = 8 Double 5 = 10	Doubles to 20 Double 1 = 2 Double 2 = 4 Double 3 = 6 Double 4 = 8 Double 5 = 10 Double 6 = 12	

			Double 7 = 14 Double 8 = 16 Double 9 = 18 Double 10 = 20	
		Halves from 10 Half of 10 = 5 Half of 8 = 4 Half of 6 = 3 Half of 4 = 2 Half of 2 = 1	Halves from 20 Half of 20 = 10 Half of 18 = 9 Half of 16 = 8 Half of 14 = 7 Half of 12 = 6 Half of 10 = 5 Half of 8 = 4 Half of 6 = 3 Half of 4 = 2 Half of 2 = 1	
Multiplication tables				10 x tables 1 x 10 = 10 2 x 10 = 20 3 x 10 = 30 4 x 10 = 40 5 x 10 = 50 6 x 10 = 60 7 x 10 = 70 8 x 10 = 80 9 x 10 = 90 10 x 10 = 100 11 x 10 = 110 12 x 10 = 120
				2 x tables 1 x 2 = 2 2 x 2 = 4 3 x 2 = 6 4 x 2 = 8

		5 x 2 = 10 6 x 2 = 12 7 x 2 = 14 8 x 2 = 16 9 x 2 = 18 10 x 2 = 20 11 x 2 = 22 12 x 2 = 24
		5 x tables 1 x 5 = 5 2 x 5 = 10 3 x 5 = 15 4 x 5 = 20 5 x 5 = 25 6 x 5 = 30 7 x 5 = 35 8 x 5 = 40 9 x 5 = 45 10 x 5 = 50 11 x 5 = 55 12 x 5 = 60
Fractions		Count forwards in halves 0, ½, 1, 1 ½, 2, 2 ½, 3, 3 ½, 4, 4 ½, 5, 5 1/2 , 6, 6 ½, 7, 7 ½, 8, 8 ½, 9, 9 ½, 10
		Count forwards in quarters 0, ¼, ½, ¾, 1, 1 ¼, 1 ½, 1 ¾, 2, 2 ¼. 2 ½, 2 ¾, 3, 3 ¼, 3 ½, 3 ¾, 4, 4 ¼, 4 ½, 4 ¾, 5, 5 ¼, 5 ½, 5 ¾, 6, 6 ¼, 6 ½, 6 ¾, 7, 7 ¼, 7 ½, 7 ¾, 8, 8 ¼, 8 ½, 8 ¾, 9, 9 ¼, 9 ½, 9 ¾, 10