St John's Mathematics Calculation Policy

Year 2

Addition

Year Group	Number Facts Pupils should be taught to:	Written Calculations and Appropriate Models and Images to Support Conceptual Understanding
2	• Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100	Children to use Numicon to solve addition calculations within 20 e.g. 18 + 8 = Children to use inverse to check their work. • 2 digit + 1 digit using resources to begin with e.g. dienes, Numicon Children to use part part whole method: *(top tip – add the ones first)* • 2 digit + multiple of 10 using resources to begin with e.g. dienes, Numicon • 2 digit + 2 digit maximum total in either column is 9 – (no carrying) - using resources to begin with e.g. dienes, Numicon • 2 digit + 2 digit: totals to 10 or above in ones – introducing carrying in the ones columns only resources to begin with e.g. dienes, Numicon	35 + 4 = 39 30 5 0 4 *Top Tip add the ones first* 5 + 4 = 9 30 + 0 = 30 30 + 9 = 39 30 + 5 0 + 4 30 + 9 35 + 20 = 55 30 5 20 0 5 + 0 = 5 30 + 20 = 50 50 + 5 = 55 30 + 5 20 + 0 50 + 5 = 55 47 + 32 40 7 30 2 7 + 2 = 9 40 + 30 = 70 70 + 9 = 79 40 + 7 30 + 2 70 + 9 = 79 Tens	Ones 20 + 7 40 + 6 60 + 13 = 73

Subtraction

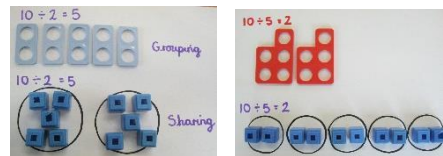| Year Group	Number Facts Pupils should be taught to:	Written Calculations and Appropriate Models and Images to Support Conceptual Understanding
2	• Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100	Children to use Numicon to solve subtraction calculations within 20 e.g. 18 - 8 = Children to use inverse to check their work. • 2 digit - 1 digit (e.g. 28 – 3) using resources to begin with e.g. dienes, Numicon Children to use part part whole method: (top tip – subtract ones first) • 2 digit - multiple of 10 (e.g. 56 – 40) using resources to begin with e.g. dienes, Numicon • 2 digit - 2 digit (e.g. 37 -24) no carrying - using resources to begin with e.g. dienes, Numicon • 2 digit - 2 digit: totals to 10 or above in ones (e.g. 32-16) – introducing exchange from tens (begin with 2 digit – 1 digit) – using only resources to begin with e.g. dienes, Numicon	$28 - 3 = 25$ 20, 8, 0, 3 $8 - 3 = 5$ $20 - 0 = 20$ $20 + 5 = 25$ $20 + 8$ $- 0 + 3$ $20 + 5$ *Top Tip* *Use your number families* $56 - 40 = 16$ 50, 6, 40, 0 $6 - 0 = 6$ $50 - 40 = 10$ $6 + 10 = 16$ $50 + 6$ $- 40 + 0$ $10 + 6$ Tens Ones *Top Tip* *Subtract the ones first* $37 - 24 = 13$ 30, 7, 20, 4 $7 - 4 = 3$ $30 - 20 = 10$ $3 + 10 = 13$ $30 + 7$ $- 20 + 4$ $10 + 3$ *Shown as two steps (would be on one table)* Tens Ones Tens Ones $32 - 16 = 16$ 20, 12, 30, 2, 10, 6 $12 - 6 = 6$ $20 - 10 = 10$ $6 + 10 = 16$ $32 - 16 = 16$ 20 12 $30 + 2$ $- 10 + 6$ $10 + 6$ Tens Ones

Multiplication

Year Group	Number Facts Pupils should be taught to:	Written Calculations and Appropriate Models and Images to Support Conceptual Understanding	
2	• Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	• Children to use Numicon and other appropriate resources to help count in 2s, 5s and 10s. • Children to use arrays and repeated addition to solve multiplication calculations with factors to 10. • Children to explore and show good understanding that multiplication is commutative (can be done in any order). Children to use 2x, 5x and 10x table to show this.	5 + 5 + 5 = 15 (5 x 3) 3 + 3 + 3 + 3 + 3 = 15 (3 x 5)

Division

Year Group	Number Facts Pupils should be taught to:	Written Calculations and Appropriate Models and Images to Support Conceptual Understanding	
2	• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	• Children to use Numicon and other appropriate resources to help group in 2s, 5s and 10s. • Children will group using arrays between 2, 5, 10 • Children will use cubes to share between 2, 5, 10 • Children will then share by drawing their objects in groups and sharing • Children to find remainders by sharing and grouping	