Calculation Policy : Addition

		Age related expectations	Methods									Rapid recall	Mental calculation
		Addition as 'combining 2	Practical / Pictures / Objects Symbols										
VES	2	In practical activities / discussion begin to use	recorded using ICT (e.g. digital photos / pictures on IWB)	I buy 2 cats and my frie How many cats did we	end buys 3 cats. buy altogether?	May be recorded as: 2 + 3 = 5		8 people are on the bus. 5 more get on at the next stop. How many people are on the bus now?				1 more (nos up to 20)	Add 2 single digit nos
Ц	U I	vocabulary involved in Adding											(see recording)
		1 digit + 1 digit	1 digit + 1 digit							· · · · ·			
		Addition as 'counting on'		Pictures/Symbols (see above)	Number track / Number (modelled using bead str	rr line – jumps of 1 trings)		Empty Number line (efficient jumps) 18 + 5 +2 +3			No number line - mental + jottings	Bonds to 20	1 digit + multiple of 10
		1 digit + 2 digit numbers to			18 + 5 = 23						18 + 5 = 23	1 or 10 more than a	2 digit + multiple of
5	=	(bridging 20)			+1 +1 +1 +1 +1						(18+2) 20 (20+3) 23	1 more than any given	+9 (by +10, -1)
							18 20 23 The empty number line helps to re the way to calculating the total. Th sometimes bridge through a multi-		record the steps on the steps ca			number up to 100	
					18 19 20 21	22 23 24		sometimes bruge through a multiple of to.					
		Add two 2 digit numbers Pictures/Symbols Empty Number I			efficient jumps)			No men		umber line – al + jottings	Partitioning	Addition facts up to 20	2 digit and 1 digit
		(bridging 10s / 100) Add three 1 diait numbers	23 + 12 = 35	47 + 35 +30	+3 +2 The empty n			umber line helps to		35 = 82	47 + 35 40 + 30 = 70	Pairs to 100 (using multiples of 10) eq	2 digit and multiple of 10 up to
Ŷ	71	See mental calculation.			record the calculating bridge thr		record the step calculating the bridge through	eps on the way to le total. The steps often		30) 77 3) 80	7 + 5 = 12	20/80	100
					77 80 82			(80 +		2) 02			numbers
	_			price jumpe can be in t		I							three 1 digit
		Adding tens or hundreds to 3 digit numbers	Empty number line		No number line – mental + jottings	Partitioning		Expanded column method (many children will not need this		Formal column method		Bonds to 100	3 digit and 1 digit
Y3	2	Add numbers with up to 3 digits steps of the bridge through a multiple of 10.		374 + 248 = 622 b	When adding larger numbers, it becomes less efficient to count on so partitioning is used	step)		The method is when the colu	s then shortened and	Pairs of two-digit multiples of 10	3 digit and multiple of 10		
		U U	Example:		Mental jotting (374 + 200) 574 (574 + 40) 614	Partition into (hundreds) tens, ones, tenths, hundredths etc, add to form partial sums and then	children to the more compact column method so that they understand the structure and efficiency of it.		number, the te carried over in the words 'car hundred', <u>not</u>	ns (or hundreds) are to the next column. Use ry ten' or 'carry one 'carry one'.	Pairs of fractions to 1 with common denominators	3 digit number and multiple of 100	
		Add numbers with up to 4	pers with up to 4 g formal methods money – up to 2 dp $85 + \pm 3.49$) +2 + 4 +30 + 2 + 4 48 - 78 - 80 - 84 +2 + 34		(614 + 8) 622	recombine. Partitioning all the numbers mirrors the standard column method where ones are placed	The amount of time that should	ld be	Once learned	, this method is quick	Bonds to 1000	2 digit + 2 digit	
		digits using formal methods Decimals: money – up to 2					spent teaching and practising expanded method will depend how secure the children are in	the d on n their	and reliable. E two-digit numbers, and	extend to adding three bers, two three-digit I numbers with different	Multiples of 50 that total 1000	(Pairs of multiples of 10 / 100 / 1000)	
4		dp (£7.85 + £3.49)			under ones and tens under tens etc. 47 + 76 = 40 + 7 $= \frac{70 + 6}{110 + 13} = 123$		under tens	recall of number facts and in the understanding of place value.		also be used t	gits. This method of can to add decimals.	Derive sums of pairs of multiples of 10 /	Three, 2-digit multiples of 10
7							123	374		$^{1}_{374}$ + 248		100 / 1000	Two, three-digit
			48 50 84				120	12		622			Add fractions with
						375+567=300 + 70 + 5 $500 + 60 + 7$ $800 + 130 + 12 - 942$		110 500		1 1			common denominators
		Add numbers with more				800 + 130	+ 12 = 942	622		3.243 + 18.070		(derive) Bonds up to 1	Decimal + Decimal
Υ5	2	than 4 digits using formal methods				Partitioning – <i>menta</i> jottings	n/ with	3.243 + 18.070		21.313		(1 dp)	(e.g. 19.7 + 3.4)
		Decimals up to 3 dp (23.745 + 48.56)				374 + 248 (300 + 200)	500	0.003 0.110				10 (1dp)	same denominator and multiples of same number
		Consolidate / extend Y5 including:				(70 + 40) (4 + 8)	110 12	0.200 21.000				(derive) Bonds up to 1	
		Application to solving multi- step problems				3.243 km + 18.07 km		21.313				(2 dp)	
A		Add fractions with different denominator and mixed numbers				$\begin{array}{l} (3 + 18) \\ (0.2 + 0.0) \\ (0.04 + 0.07) \\ (0.003 + 0) \end{array}$	21 0.2 0.11 0.003	Discuss how adding the ones gives the same answer as add the tens first. Refine over time consistently adding the const	e first ding e to				
								first.	ացութ				

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