This calculation policy sets out the methods used to help our pupils with calculations and has been devised to meet requirements of the National Curriculum 2014 for the teaching and learning of mathematics. It is also designed to give pupils a consistent and smooth progression of learning in calculations across the school, taking into account Maths No Problem! - a Singapore teaching style in Maths.

Pupils are taught strategies to develop and strengthen their mental agility on a daily basis. They also need to be able to apply written calculation skills in order to:

- represent work that has been done practically
- support, record and explain mental calculation
- keep track of steps in a longer task
- work out calculations that are too difficult to do mentally

The Calculation Policy shows methods that pupils will be taught within their respective year group. It is shown in teaching order. Children should be confident in choosing and using a strategy that they know will get them to the correct answer as efficiently as possible; pupils are free to choose their preferred method to solve calculations.

Concrete, Pictorial, Abstract: A key principle behind the Singapore Maths textbooks and Maths Mastery is based on the concrete, pictorial and abstract approach. Pupils are first introduced to an idea or skill by acting it out with real objects (a hands on approach). Pupils then are moved onto the visual stage, where pupils are encouraged to relate the concrete understanding to pictorial representations. The final abstract stage is a change for pupils to represent problems by sing mathematical notion.

Whilst this calculation policy aims to show the CPA approach to the different calculations, it is not always noted further up the year groups. However, it is expected that the CPA approach is used continuously in all new learning and calculations even when not noted.













Subtraction









Multiplication

Objective and strategies	Concrete	Pictorial	Abstract
Doubling	Use practical activities to show how to double a number.	Draw pictures to show how to double a number.	
			10 6 x2 x2
	double 4 is 8		20 12 Partition a number and then
	4×2=8		double each part before recombining it back
	- MACH	EL	together.
Counting in multiples		Mrs 2M Mrs 2M Mrs 2M	number aloud.
		41(74)(74)(7	Write sequences with
9			2, 4, 6, 8, 10
			5, 10, 15, 20, 25, 30
		Counting in multiples.	,,,,,
	Count in multiples supported by concrete objects in equal groups.	1 2 3 4 \$ 6 7 8 9 10	
	S-Y DA	11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	
	The Carl	41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70	
00	and the second s	71 72 73 74 75 76 77 78 79 80 81 82 83 48 56 66 79 88 89 90 91 92 93 94 95 96 97 98 99 100	
		HZL .	

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Repeated addition		There are 3 plates. Each plate has 2 star biscuits on. How many biscuits are there?	Write addition sentences to describe objects and pictures.
	Use different objects to add equal groups.	5 + 5 + 5 = 15	2+2+2+2=10
	A A A A A A A A A A A A A A A A A A A	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	
Arrays showing commutative multiplication	to show multiplication sentences.	to find commutative multiplication sentences.	multiplication sentences and reinforce repeated addition.
multiplication		2×4=8 00 2×4=8 00 4×2=8 Link arrays to area of rectangles.	5+5+5=15 3+3+3+3+3=15 5 x 3 = 15 3 x 5 = 15









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