

PLACE VALUE	MENTAL METHODS	WRITTEN METHODS			RESOURCES	SINGAPORE METHODS	NON NEGOTIABLES
count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number - given a number, identify one more and one less - identify and represent numbers using objects and pictorial representations including the number line	add and subtract one-digit and two-digit numbers to 20, including zero	read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	Pupils have recall of all the number bonds to 10 and can calculate the number bonds to 20	A number bond shows the relationship in a simple addition or subtraction problem. The number bond is based on the concept "part-part-whole." This concept is useful in teaching simple addition and subtraction to young children.	Numicon Money Bead Strings Straws		<ul style="list-style-type: none"> Know number bonds up to 10 e.g. 4+3=7, 5+2=3 Count forward to 50 and begin to count backwards Read, write and order numbers to 20 Odd and even numbers to 10 (using Numicon) Find missing numbers in a sequence 0-20 Doubles up to 5+5=10 One more than, one less than a number up to 20 To add single digit numbers together e.g. 3+2=5, 3+2+1=6, 5+3=2 To subtract a single digit from 10
Identify, represent and estimate numbers using different representations, including the number line - recognise the place value of each digit in a two-digit number (tens, ones) - Read and write numbers to 100 in words and numerals	add and subtract numbers mentally, including: three digit and ones, three digit and tens, two two digit numbers, three one digit numbers	show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot	The place value of each digit in a two-digit number (tens, ones) investigated practically leading to Pupils have instant recall of all the number bonds to 20. Pupils know that if 1 + 8 = 9 then 31 + 8 = 39 and 41 + 8 = 49	<p>not used in all schools</p>	Expanded column	Numicon Money Bead Strings place value counters Straws	<p>1. Number Bond (single digits)</p> <p>3 (part) + 6 (part) = 9 (whole) 9 (whole) - 3 (part) = 6 (part) 9 (whole) - 6 (part) = 3 (part)</p> <p>2. Addition Number Bond (single digits)</p> <p>9 + 5 = 14 = 10 + 4 = 14</p> <p>Addition number bonds (2 digit)</p> <p>54 + 27</p> <p>54 + 27 = 81 74 + 6 + 1 = 81</p> <p>Subtraction bonds (2 digit)</p> <p>72 - 38</p> <p>72 - 38 = 34 42 - 2 - 6 = 24</p>
recognise the place value of each digit in a three-digit number (hundreds, tens, ones) - read and write numbers up to 1 000 in numerals and in words	add and subtract numbers including: three digit and ones, three digit and tens, three digit number and hundreds	add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction add and subtract fractions with the same denominator within one whole (e.g. 5/7 + 1/7 = 6/7)	Fractions visually (egg box - numicon)	column subtraction no exchange	Numicon Money Bead Strings place value counters Diens		<ul style="list-style-type: none"> Read, write and order numbers to 100, odd and even numbers to 100 Understand place value with 2 digit numbers Know 10 more than and 10 less than any number to 100 Understand greater than > and less than < and use signs Use inverse to check answers (addition and subtraction) e.g. 6+4=10 so 10-4=6 Know and use + and - facts up to and including 20 including 6+4 = 8+2 Add and subtract using 1 and 2 digit numbers and written methods Add and subtract mentally -2 digit + 1 digit, 2 digit +10, 2 digit + 2 digit To know and understand vocabulary for +, -, and = Solve word problems with + = Recognise, name and write fractions 1/2, 1/3, 2/3. Begin to calculate fractions
recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)	add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate add and subtract fractions with the same denominator	add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate add and subtract fractions with the same denominator	Fractions visually (egg box - numicon)	column subtraction and exchange	Numicon for fractions, cuisinaire for fractions, egg boxes (to discourage the add the top and then add the bottom error.)		<p>1. The model that involves addition</p> <p>Melissa has 50 blue beads and 20 red beads. How many beads does she have altogether?</p> <p>50 + 20 = 70</p> <p>2. The model that involves subtraction</p> <p>Ben and Andy have 90 toy cars. Andy has 60 toy cars. How many toy cars does Ben have?</p> <p>90 - 60 = 30</p> <p>3. The model that involves comparison</p> <p>Mr. Simons has 150 magazines and 110 books in his study. How many more magazines than books does he have?</p> <p>Magazines: 150 Books: 110</p> <p>150 - 110 = 40</p> <p>4. The model that involves two items with a difference</p> <p>A pair of shoes costs \$109. A leather bag costs \$241 more than the pair of shoes. How much is the leather bag?</p> <p>Bag: \$241 Shoes: \$109</p> <p>\$109 + \$241 = \$350</p>
read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit - recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (fractions)	add and subtract numbers mentally with increasingly large numbers	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) add and subtract fractions with the same denominator and multiples of the same number Adding and subtracting decimals (appears in non statutory guidance)	$\frac{1}{2} + \frac{3}{8} = \frac{4}{8} + \frac{3}{8} = \frac{7}{8}$	$\begin{array}{r} 2.56 \\ 3.7 \\ \hline 6.26 \\ \hline \end{array}$ $\begin{array}{r} 3.80 \\ 2.51 \\ \hline 1.29 \end{array}$	Numicon for fractions, cuisinaire for fractions, egg boxes		
read, write, order and compare numbers up to 10 000 000 and determine the value of each digit - identify the value of each digit to three decimal places (Fractions)	perform mental calculations, including with mixed operations and large numbers	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions			Numicon for fractions,		