Shawlands Primary School

Key Stage 1 and Key Stage 2

Maths Calculation Policy

Addition and Subtraction / Multiplication and Division

SHAWLANDS PRIMARY SCHOOL

Addition and Subtraction

Year	NC Objective	Concrete (Make)	Pictorial (Draw)	Abstract (Write)
1	Number bonds to 10	Manipulatives Numicon Bead string Part whole model Tens frames Fingers/head 100 square	Part whole model Tens frames Drawn manipulatives	Number sentences (pattern / mixed)
1	Add and subtract two 1 digit numbers to 10	Bead strings Manipulatives Tens frames (to 20) Part-whole model Fingers/head 100 square Numicon	Tens frames Drawn manipulatives Part-whole model Number tracks / lines	Number sentences
1	Add and subtract 1 digit and 2 digit numbers to 20, including 0	Bead strings Manipulatives Tens frame (to 20) Part-whole model Fingers/head 100 square Numicon Base ten	Number tracks / lines Drawn manipulatives Part-whole model Base ten	Number sentences

2	Add and subtract a 2 digit number and ones	Manipulatives Base ten Bead string 100 square	Number tracks / lines Base ten Part whole model	Number sentences
2	Add and subtract a 2 digit number and tens	Base ten 100 square	Base ten Number lines Part whole model	Column method Number sentences
2	Add and subtract two two-digit numbers	Base ten Place value counters 100 square Part-whole model	Base ten Part whole model Number lines	Column method Partitioning
2	Adding three 1 digit numbers	Manipulatives Bead string 100 square Tens frames Numicon	Drawn manipulatives Number line	Number sentences (looking for number bonds / largest number)
3	Add and subtract 3 digit numbers and 1s	Place value chart place value counters Base ten	Place value chart Part whole model Number line Base ten	Number sentences
3	Add and subtract 3 digit numbers and 2 digit numbers	Place value chart Place value counters Base ten	Place value chart Base ten Part whole model Number line	Column method Number sentences

3	Add and subtract two 3 digit numbers	Place value chart Place value counters Base ten	Place value chart Base ten	Column addition Number sentences
4	Add 1s, 10s, 100s and 1000s to 4 digit numbers	Place value chart Place value counters	Place value chart Place value counters	Number sentences
4	Add two 4 digit numbers	Place value chart Place value counters Base ten	Place value chart Base ten	Column method
5	Add and subtract whole numbers with more than 4 digits	Place value chart Place value counters	Place value chart	Column method
6	Add and subtract integers	Place value chart Place value counters	Place value chart	Column method

SHAWLANDS PRIMARY SCHOOL

Multiplication and Division

Year	NC Objective	Concrete (Make)	Pictorial (Draw)	Abstract (Write)
1	**Counting in multiples of 2, 5 and 10**	Manipulatives 100 square Arrays Numicon Fingers Bead string	Number line / tracks Manipulatives Arrays	Write out times table facts Number sequences (pattern / mixed)
1	**Making equal groups**	Arrays Numicon Objects – grouping Bead string	Drawn manipulatives - grouping Arrays	Number sentences (pattern / mixed)
1	**Making doubles**	Arrays Numicon Manipulatives Bead string	Drawn manipulatives Arrays	Number sentences (x 2 and adding)
2	**Recall multiplication facts for the 2, 5 and 10 times tables (and counting in 3s)**	Manipulatives 100 square Arrays Numicon Fingers Bead string	Manipulatives Number line Arrays	Number sentences (pattern and mixed)

		Money		
2	**Repeated addition**	Manipulatives Numicon Bead string	Manipulatives Number line	Number sentences
2	**Making equal groups**	Arrays – grouping Numicon Manipulatives Bead string 100 square	Arrays – grouping Number lines Drawn manipulatives	Number sentences
2	**Doubling**	Manipulatives Mirrors Arrays Numicon	Drawn manipulatives Arrays Number line	Number sentences – multiply by 2 / add number to itself / (2 digits) partition number, double and then add together
2	**Halving**	Halving mat Manipulatives	Grouping – drawn manipulatives Arrays	Number sentences – divide by 2 / partition the number, halve and then add the numbers back together
3	**Multiply by 3, 4 and 8**	Manipulatives 100 square Fingers Arrays	Arrays Drawn manipulatives Number line (repeated addition)	Number sentences (pattern / mixed) Written repeated addition Double and double again (4 times table) Multiply by 4 and double (8 times table)

				Partition into known times tables (for 8 times table)
3	**Divide by 3, 4 and 8**	Manipulatives / arrays - grouping Fingers	Manipulatives / arrays - drawn grouping Bar model Repeated subtraction (number line)	Number sentences Written repeated subtraction (pattern / mixed) Halve and halve again (4 times table) Divide by 4 and halve (8 times table)
3	**Multiply 2 digits by 1 digit**	Partition with place value chart and base 10 / place value counters	Partition with drawn place value chart and base 10 / place value counters Part whole model	Number sentences (x) Formal written method (short)
3	**Divide 2 digits by 1 digit (no remainders and remainders**	Partition with place value chart and base 10 / place value counters	Partition with drawn place value chart and base 10 / place value counters Part whole model	Number sentences (÷) Formal written method (short)
4	**Multiplying by 10**	Place value chart / place value counters	Place value chart	Formal written method (short)
4	**Multiply and divide by 11 and 12**	Base ten 100 square	Bar model Number line (repeated addition / subtraction)	Written repeated addition / subtraction

4	**Multiply by 100**	Place value chart / place value counters	Place value chart	Number sentences Multiply by 10 and 10 again
4	**Divide by 10 (and 100)**	Place value chart / place value counters	Place value chart Bar model	Number sentences Divide by 10 and 10 again (÷100)
4	**Multiply and divide by 6, 7 and 9**	Manipulatives – array / grouping 100 square	Manipulatives – drawn array / grouping Bar model Number lines (repeated addition / subtraction)	Number sentences – pattern and mixed (relate to known times tables where applicable)
4	**Multiply 3 numbers**	Arrays	Arrays	Number sentences
4	**Multiply 2 digit numbers by 1 digit numbers**	Manipulatives - partitioning – arrays Place value chart / place value counters	Manipulatives - partitioning – arrays Part whole model Number line Place value chart / place value counters	Partitioning – written Grid method Written method (expanded and short)
4	**Multiply 3 digit numbers by 1 digit numbers**	Place value chart / place value counters	Place value chart / place value counters	Formal written method (expanded and short)
4	**Divide 2 digit numbers by 1 digit numbers**	Place value chart / place value counters / base 10	Part whole model Place value chart / place value counters / base 10	Partitioning Formal written method (short)

			Grouping with base 10 / place value counters	
4	**Divide 3 digit numbers by 1 digit numbers**	Place value chart / place value counters / base 10	Part whole model Place value chart / place value counters / base 10	Partitioning Formal written method (expanded and short)
5	**Multiply 4 digit numbers by 1 digit numbers**	Place value chart / place value counters	Place value chart / place value counters	Grid method Formal written method (short)
5	**Multiply 2 digits by 2 digits**	Base 10	Base 10 / place value counters (drawn) on grid method	Grid method Formal written method (expanded)
5	**Multiply 3 digits by 2 digits**			Formal written method (expanded)
5	**Multiply 4 digits by 2 digits**			Formal written method (expanded)
5	**Divide 4 digits by 1 digit**	Place value chart / place value counters	Place value chart / place value counters	Formal written method (short)
6	**Place value chart / place value counters**		Place value chart / place value counters	Number sentences (using x10 facts for 100 and 1000)

6	**Place value chart / place value counters**		Place value chart / place value counters	Number sentences Formal written method (short)
6	**Place value chart / place value counters**		Place value chart / place value counters Part whole model	Number sentences Formal written method (short)