Intent

- To develop children's curiosity in Maths and to foster a sense of enjoyment and love of learning about the subject.
- To be aware of Maths in the everyday world.
- To be equipped with the tools and strategies needed to solve Mathematical problems.
- To become confident and competent Mathmeticians.

F1	Curriculum	Knowledge	Skills	Vocabulary

F2	Curriculum	Knowledge	Skills	Vocabulary
	Number Addition and Subtraction (Mental calculations, Solve Problems). *Mental calculations* • Automatically recall number bonds for numbers 0-5 and some to 10. • **Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.** *Solve Problems* • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.	*Addition and Subtraction* *Mental calculations* • To know what the amounts 0-5 (and 10) look like. • To know the numeral names. • To know how to rote count up to 10 forwards and backwards. • To know that parts make a whole amount. • To know that when you are adding parts together the number increases/becomes greater. • To know that when you are subtracting you start with the whole amount. • To know that when you are subtracting the whole amount gets smaller/decreases. • To know that number bonds are the parts that make up a number/amount. • To know what double means. • To know that when you double a number it makes a greter amount. *Solve Problems* • To know what an even number is and know that an even amount can be shared equally. • To know what an odd number is and know that an odd amount can not be shared equally. • To know what double means. • To know how to share an amount equally. • To know that equal means the same.	*Addition and Subtraction* *Mental calculations* • To be able to say/show the number bonds for 0-5 and some to 10. • To be able to recall number bonds to 5 and some to 10 without any additional aids, including subtraction facts. • To be able to recall/say/show double facts. *Solve Problems* • To be able to identify an even number and say why it is even. • To be able to identify an odd number and say why it is odd. • To be able to say what double an amount/number is e.g. double 2 is 4. • To be able to share quantities evenly.	Addition, subtraction, altogether, left, number bonds, tell me, show me, double, pattern, share, even, the same as amount, group, numeral (written form), count, numeral name, number (quantity), whole amount, part, greater, smaller, increase, decrease, even number, odd number same, objects, jottings, forwards, backwards.

Year 1	Curriculum	Knowledge	Skills	Vocabulary
	Number Addition and Subtraction (Number bonds, mental calculation, written methods, problem solving).	*Number Addition and Subtraction* Number Bonds	*Number Addition and Subtraction* Number Bonds	Addition, subtraction, altogether, left, in total, more, number

	Curriculum	Knowledge	Skills	Vocabulary

Number Bonds
- Represent and use number bonds and related subtraction facts within 20.

Mental calculation
- Add and subtract one-digit and two-digit numbers to 20 including 0.
- Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. (Appears also in written methods).

Written methods
- Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. (Appears also in mental calculation).

Problem solving
- Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems such as 7 = _ - 9.

Knowledge column:
- To know what the amounts 0-20 look like.
- To know the numeral names.
- To know how to rote count up to 20 (and beyond) forwards and backwards.
- To know that parts together make a whole amount.
- To know that when you are adding parts together the number increases/becomes greater.
- To know that when you are subtracting you start with the whole amount.
- To know that when you are subtracting the whole amount gets smaller/decreases.
- To know that number bonds are the parts that make up a number/amount.
- To begin to recognise that addition and subtraction are linked (inverse).
- To know that addition is commutative. The parts can be swaped.

Mental calculation
- To know what digit means.
- To know what one-digit and two-digit numbers look like.
- To know that a one-digit number is make up of ones and a two-digit number is made up on tens and ones.
- To know what the digits in two-digit numbers represent.
- To know that when you are adding parts together, the whole number gets greater.
- To know that when you are subtracting the whole number gets smaller.
- To know that when subtracting you start with the whole number, minus a part to find the missing part.

Problem solving
- To know what add and subtract means.
- To know how to use concrete and pictorial representations to solve problems.
- To begin to understand the relationship between addition and subtraction to solve missing number problems (inverse).

Skills column:
- To be able to represent/recall number bonds within 20.
- To be able to recall related subtraction facts within 20.
- To be able to use knowledge of number bonds and related subtraction facts to solve problems.

Mental calculation
- To be able to identify and say digits in a numeral.
- To be able to write and read one-digit and two-digit numerals.
- To be able to explain what each digit represents in a numeral eg 14 – 1 ten and 4 ones.
- To be able to add parts together to get the whole number.
- To be able to subtract a part from the whole to find the missing part.
- To be able to add and subtract one-digit and two-digit numbers to 20 including 0.

Problem solving
- To be able to interpret a word problem to identify whether they need to add or subtract.
- To be able to understand vocabulary in a problem and what it means eg in total, in all, how many are left?, how many more?
- To be able to use concrete and pictorial scaffolds (jottings) to solve problems.
- To able able to use the inverse to solve missing number problems.

Vocabulary column:
bonds, recall, one-digit, two-digit, tens digit, ones digit, calculation, number sentence, plus (sign), minus (sign), equals (sign), solve, concrete, pictorial, jottings, double, pattern, share, even, the same as amount, group, numeral (written form), count, numeral name, number (quantity), whole amount, part, greater, smaller, increase, decrease, even number, odd number same, forwards, backwards, commutative (commutativity), inverse, represent.

Year 2	Curriculum	Knowledge	Skills	Vocabulary

Curriculum:
Number Addition and Subtraction
(Number bonds, mental calculation, inverse operations, estimating and checking answers, problem solving).
Number bonds

Knowledge:
Number Addition and Subtraction
Number Bonds
- To know the composition of numbers to 20 and recall these fluently using addition and subtraction showing the inverse relationship e.g. 18+2=20, 2+18=20, 20-18=2, 20-2=18

Skills:
Number Addition and Subtraction
Number Bonds
- To be able to fluently represent/recall number bonds within 20.

Vocabulary:
Addition, subtraction, altogether, left, in total, more, number bonds, recall, one-digit, two-digit, tens

	• Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. **Mental calculations** • Add and subtract numbers using concrete objects, pictorial representations, and mentally including: a two-digit number and ones, a two-digit number and tens, two two digit numbers, adding three one-digit numbers. • Show that addition of any two numbers can be done in any order (commutative) and subtraction of one number from another cannot. **Inverse operations, estimating and checking answers** • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. **Problem solving** • Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures and applying their increasing knowledge of mental and written methods. (Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. This is copied from Measurement).	• To know the numeral names. • To know how to write numerals. • To know how to rote count up to 100 forwards and backwards. • To know that parts together make a whole amount. • To know that when you are adding parts together the number increases/becomes greater. • To know that when you are subtracting you start with the whole amount. • To know that when you are subtracting the whole amount gets smaller/decreases. • To know that number bonds are the parts that make up a number/amount. • To know that addition and subtraction are linked (inverse). • To know that addition is commutative. The parts can be swaped. **Mental calculation** • To know what digit means. • To know what one-digit and two-digit numbers look like. • To know that a one-digit number is make up of ones and a two-digit number is made up on tens and ones. • To know what the digits in two-digit numbers represent (tens and ones). • To know that when you are adding parts together, the whole number gets greater. • To know that when you are subtracting the whole number gets smaller. • To know that when subtracting you start with the whole number, minus a part to find the missing part. **Problem solving** • To know how what add and subtract means. • To know how to use concrete and pictorial representations to solve problems. • To begin to understand the relationship between addition and subtraction to solve missing number problems (inverse). • To know what a measure is and looks like. • To know what coins/money look like. • To know the value of coins and notes. • To know how to make amounts in different ways.	• To be able to show that when writing an addition calculation the parts can be swapped (commutativity). • To be able to fluently recall related subtraction facts within 20 (inverse). • To be able to use knowledge of number bonds and related subtraction facts to solve problems. • To be able to use knowledge of bonds within 20 and apply this to bonds within 100 noticing patterns eg 1+9=10 -→ 10+90=100. **Mental calculation** • To be able to identify and say digits in a numeral to 100. • To be able to write and read one-digit and two-digit numerals to 100. • To be able to explain what each digit represents in a numeral eg 45 – 4 tens and 5 ones, to 100. • To be able to add parts together to get the whole number (dienes, jottings, blank numeral line to scaffold) to 100 including crossing the tens. (2-digit plus 1-digit, 2-digit plus a ten, 2-digit plus 2-digit not crossing the tens, 2-digit plus 2-digit crossing the tens). • To be able to subtract a part from the whole to find the missing part (dienes, jottings, blank numeral line to scaffold), to 100 includiong crossing the tens. (2-digit minus 1-digit, 2-digit minus tens, 2-digit minus 2-digit not crossing the tens, 2-digit minus 2-digit crossing the tens, exchanging). • To be able to add and subtract one-digit and two-digit numbers to 100 including 0 (dienes, jottings, blank numeral line to scaffold). • To be able to add three one-digit numbers together (dienes, jottings, blank numeral line to scaffold). • To be able to show addition is commutative therefore parts can be in any order and this does not apply to subtraction. **Inverse operations, estimating and checking answers** • To be able to recognise and use the inverse relationship between addition and subtraction to solve missing number problems. • To be able to use the inverse to check calculations and problems. **Problem solving**	digit, ones digit, calculation, number sentence, plus (sign), minus (sign), equals (sign), solve, concrete, pictorial, jottings, double, pattern, share, even, the same as amount, group, numeral (written form), count, numeral name, number (quantity), whole amount, part, greater, smaller, increase, decrease, even number, odd number same, forwards, backwards, commutative (commutativity), inverse, represent, value.

| | | | *To be able to solve problems with addition and subtraction using concrete objects and pictorial representations (dienes, jottings).* *To be able to solve a range of problems including numbers, quantities, measutres, money of the same unit including giving change.* *To be able to apply their increasing knowledge of mental and written methods (number sentences, calculations, blank numeral lines).* | |