Oakley Cross Primary School and Nursery

Non-Negotiables in Maths

	EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Mental Strategies	• add and subtract numbers mentally, including ones, tens and hundreds • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • recognise and use place value of 3 digit numbers • count reliably by rote from 1 to 20 (and beyond) both forwards and backwards • count a group of objects or actions reliably up to and beyond 10 • recognise numerals 0-10 • place numbers in order up to 20 • count on and back to find an answer • say a number which is 1 more or 1 less than a given number • know the days of the week in order	• count to and across 100, forwards and backwards • count, read and write numbers to 100 in numerals; • count in multiples of twos, fives and tens (*begin to link to 2x,5x,10x tables*) • given a number, identify one more and one less • read and write numbers from 1 to 20 in numerals and words. • use number bonds and related subtraction facts within 20 •	• count in steps of 2, 3, and 5 from 0, and in tens from any number *to 100* • order numbers from 0 up to 100 plus use <, > and = signs • recall addition and subtraction facts to 20 fluently, and use related facts up to 100 • add and subtract numbers: 2 digit and ones/tens • recall multiplication and division facts for the 2, 5 and 10 tables, including recognising odd and even numbers	• add and subtract numbers mentally, including ones, tens and hundreds • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • recognise and use place value of 3 digit numbers	• recall multiplication and division facts for multiplication tables up to 12 × 12 • use place value, known and derived facts to multiply and divide mentally • recognise and use factor pairs • recognise and use place value of 4 digit numbers • round to nearest 10, 100 and 1000	• identify multiples and factors, and common factors of two numbers • prime numbers, square numbers and cube numbers • multiply and divide numbers mentally • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 • recall multiplication and division facts for multiplication tables up to 12 × 12 • round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 • recognise and use digits up to at least 1 million	• read, write, order and compare numbers up to 10 000 000 and determine the value of each digit • round any whole number to a required degree of accuracy *(10, 100, 1000, 10,000, 100,000)* • use negative numbers in context, and calculate intervals across zero • identify common factors, common multiples and prime numbers (prime numbers to at *least 19 and square numbers at least up to 144)* • use their knowledge of the order of operations to carry out calculations involving the four operations BODMAS
Written Calculations	• write numerals 0-9 with correct formation • begin to record own work using pictures, symbols and numerals	• add and subtract one-digit and two-digit numbers to 20, including zeros • know number bonds to 20	• add and subtract numbers with written methods • add pairs of two digit numbers • use related facts up to 100 and show inverse in addition and subtraction • use facts for 2,5 and 10 tables	• add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction • multiply two-digit numbers by one-digit numbers • divide two-digit numbers by one-digit numbers using mental and formal written methods • use inverse operations to check answers	• add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction • multiply two-digit and three-digit numbers by a one-digit number using formal written layout • divide two-digit and three-digit numbers by a one-digit number using short division method	• add and subtract using formal written methods (columnar addition and subtraction) • multiply 4 digits by a one- or two-digit number - long multiplication • divide 4 digits by a one-digit number - short division	• multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and short division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
Problem solving	• add and subtract two single digit numbers using objects/quantities • understand addition as combining two or more groups of objects or quantities and subtraction as taking away • solve problems involving halving, doubling and sharing • use everyday language about size, weight, capacity, position, distance, time and money to compare quantities / objects to solve problems	• Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ?– 9. • solve one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	• use place value and number facts to solve problems • solve problems with addition and subtraction • solve missing number problems • solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts	• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction • solve problems involving multiplication and division	• solve addition and subtraction two-step problems • solve problems involving multiplying and adding • solve simple measure and money problems involving fractions and decimals to two decimal places.	• solve problems involving addition, subtraction, multiplication and division and a combination of these • use all four operations to solve problems involving measure using decimal notation	• solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • solve problems involving addition, subtraction, multiplication and division • solve problems involving the calculation of percentages
Fractions	• add and subtract numbers mentally, including ones, tens and hundreds • understand and begin to find 'half' of a shape (or group of objects by sharing)	• recognise, find and half of an object, shape or quantity • recognise, find and name a quarter of an object, shape or quantity. • Show turns – full, ½ and ¼	• recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	• count up and down in tenths • divide one-digit numbers or quantities by 10 • find fractions of a set of objects • recognise equivalent fractions with small denominators • add and subtract fractions with the same denominator • compare and order unit fractions, and fractions with the same denominators • solve problems that involve all of the above. •	• show equivalent fractions • solve problems involving increasingly harder fractions to calculate quantities • add and subtract fractions with the same denominator • recognise and write decimal equivalents to simple fractions tenths and hundredths • divide by 10 and 100 • round decimals to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places	• compare and order fractions • write equivalent fractions of a given fraction • convert mixed numbers and improper fractions • add /subtract fractions (same /diff denominator) • multiply fractions/ mixed numbers by whole numbers • round decimals to whole number /one dec place • order and compare up to three decimal places • recognise and use percentages	• use common factors to simplify fractions • compare and order fractions, including fractions > 1 • add and subtract fractions with different denominators and mixed numbers • multiply simple pairs of proper fractions, • divide fractions by whole numbers • associate a fraction with division and calculate decimal fraction equivalents • identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places