5 Autumn	Fluency Focus	NC Objectives	Remember (Prior knowledge)	Know (New knowledge)	Mathematics Guidance June 2020 Ready-to-progress criteria
1		read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) order and compare numbers beyond 1000	LO: Know how to represent numbers up to 10000 LO: Know how to round to the nearest 10, 100 and 1000 LO: Know how to represent numbers up to 100000 LO: Know how to compare numbers up to 100000 LO: Know how to order numbers up to 100000	
2		read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	round any number to the nearest 10, 100 or 1 000 count in multiples of 6, 7, 9, 25 and 1000 order and compare numbers beyond 1000	LO: Know how to round to powers of 10 within 100000 LO: Know how to represent numbers up to 1000000 LO: Know how to count in powers of 10 up to 1000000 LO: Know how to compare numbers up to 1000000 LO: Know how to order numbers up to 1000000	

3		interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 read Roman numerals to 1000 (M) and recognise years written in Roman numerals. add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	count backwards through zero to include negative numbers read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	LO: Know how to round to the nearest million LO: Know how to calculate within negative numbers LO: Know how to write up to 1000 in Roman numerals LO: Know how to add numbers with more than 4 digits LO: Know how to subtract numbers with more than 4 digits	

4		add and subtract numbers mentally with increasingly large numbers use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. solve comparison, sum and difference problems using information presented in a line graph complete, read and interpret information in tables, including timetables.	solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	LO: Know how to estimate and approximate answers to calculations LO: Know how to use the inverse LO: Know how to solve multi-step addition and subtraction problems LO: Know how to interpret a range of charts (bar, pictogram, tables) LO: Know how to solve comparison, sum and difference problems integrated within charts	
5		solve comparison, sum and difference problems using information presented in a line graph complete, read and interpret information in tables, including timetables.		LO: Know how to interpret a line graph LO: Know how to draw line graphs LO: Know how to solve problems integrated within line graphs LO: Know how to read and interpret information in tables LO: Know how to read and interpret information in two-way tables	

6		complete, read and interpret information in tables, including timetables. identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	recognise and use factor pairs and commutativity in mental calculations	LO: Know how to read and interpret timetables (x 2 lessons) LO: Know what multiples are and how to identify them LO: Know what factors are and how to identify them LO: Know how to identify common factors of two or more numbers	**NF1, MD2**
7		know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers establish whether a number up to 100 is prime and recall prime numbers up to 19 recognise and use square numbers and cube numbers, and the notation for squared and cubed multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	recognise and use factor pairs and commutativity in mental calculations recognise and use factor pairs and commutativity in mental calculations use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers	LO: Know how to identify prime numbers below 100 (if the number does not divide equally by 2, 3, 5 or 7, and the number itself is below 100, then it is prime) LO: Know the square numbers, how to square a number, and how to square root a number LO: Know the cube numbers, how to cube a number, and how to cube root a number LO: Know how to multiply by and divide by powers of 10 LO: Know how to use knowledge of multiplication and division of powers of 10 to solve related problems (e.g. multiply by 30 is the same as multiplying by 3, and then 10, or vice versa)	**NF1, MD1, MD2**

8		measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres and square metres and estimate the area of irregular shapes		LO: Know how to measure and calculate the perimeter of shapes LO: Know how to count squares to find the area LO: Know how to calculate the area of squares and rectangles LO: Know how to calculate the area of compound rectilinear shapes LO: Know how to estimate the area of irregular shapes	
9		multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers	recall multiplication and division facts for multiplication tables up to 12 × 12 multiply two-digit and three-digit numbers by a onedigit number using formal written layout	LO: Know how to multiply up to 4 digits by 1 digit numbers LO: Know how to multiply up to 4 digit numbers by 2 digit numbers (x 2 - 3 lessons)	**NF1, MD3**
10		divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context		LO: Know how to divide up to 4 digits by 1 digit numbers (x 2 – 3 lessons)	**NF1, MD4**
11	Time for assessments & consolidation				
12					