

0-3 YEARS	NURSERY	RECEPTION	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
MULTIPLICATION AND DIVISION FACTS								
Take part in finger rhymes (2,4,6,8) with numbers	Notice and correct an error in a repeating pattern (eg, counting objects in 2s and having one set of 3)	Compare numbers (eg sharing items evenly between children or don't and see if children notice)	<i>count in multiples of twos, fives and tens (copied from Number and Place Value)</i>	<i>count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward (copied from Number and Place Value)</i>	<i>count from 0 in multiples of 4, 8, 50 and 100 (copied from Number and Place Value)</i>	<i>count in multiples of 6, 7, 9, 25 and 1 000 (copied from Number and Place Value)</i>	<i>count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 (copied from Number and Place Value)</i>	
Notice patterns and arrange things in patterns (eg 2 red, 2 blue etc)	Talk about and identify the patterns around them (eg, counting in 2s)	explore and represent patterns including evens and odds, and doubling		recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	recall multiplication and division facts for multiplication tables up to 12×12		
MENTAL CALCULATION								
		Explore the composition of numbers to 10 (eg, adding on 2s to get to 10)			write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including	use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three	multiply and divide numbers mentally drawing upon known facts	perform mental calculations, including with mixed operations and large numbers

					for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods (appears also in Written Methods)	numbers		
				show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot		recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers)	multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	<i>associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)</i> (copied from Fractions)
WRITTEN CALCULATION								
				calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div)	write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times	multiply two-digit and three-digit numbers by a one-digit number using formal written layout	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	multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication

				and equals (=) signs	one- digit numbers, using mental and progressing to formal written methods (appears also in Mental Methods)			
							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	divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
								<i>use written division methods</i>

								<i>in cases where the answer has up to two decimal places (copied from Fractions (including decimals))</i>
PROPERTIES OF NUMBERS: MULTIPLES, FACTORS, PRIMES, SQUARES AND CUBE NUMBERS								
						recognise and use factor pairs and commutativity in mental calculations (repeated)	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	identify common factors, common multiples and prime numbers <i>use common factors to simplify fractions; use common multiples to express fractions in the same denomination (copied from Fractions)</i>
							know and use the vocabulary of prime numbers, prime factors and composite (non- prime) numbers	<i>calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm) and cubic metres (m), and extending</i>

								<i>to other units such as mm and km (copied from Measures)</i>
							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 2 3 () and cubed ()	
ORDER OF OPERATIONS								
								use their knowledge of the order of operations to carry out calculations involving the four operations
INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS								
					<i>estimate the answer to a calculation and</i>	<i>estimate and use inverse operations to</i>		use estimation to check answers to calculations and

					<i>use inverse operations to check answers</i> (copied from Addition and Subtraction)	<i>check answers to a calculation</i> (copied from Addition and Subtraction)		determine, in the context of a problem, levels of accuracy
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CORE VOCABULARY

pattern, two, four, six, eight	pattern, error, two, four, six, eight, ten	pattern, error, two, four, six, eight, ten, groups, double, even, odd	Odd, even, how many times, lots of, groups of, multiply, multiple of, repeated addition, array, row, double, halve, share, share equally, equal groups of, divide, divided by, left over	Odd, even, how many times, lots of, groups of, multiply, multiple of, repeated addition, array, row, double, halve, share, share equally, equal groups of, divide, divided by, left over	Multiples of, scale up, multiply, multiple of, repeated addition, array, row, share, share equally, equal groups of, divide, divided by, left over, product, scale up	Multiplications facts (up to 12 x 12), division facts, inverse, derive	Efficient written method, factor pairs, composite, prime, prime factor, square numbers, cubed numbers, formal written method	Order of operations, bidmas, common factors, common multiples
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