



Content domain – addition, subtraction, multiplication and division (calculations)

EYFS Birth to 5 Matters **Range 5** **Range 6** **ELG**

- Subitises one, two and three objects (without counting) (cardinality)
- Counts up to five items, recognising that the last number said represents the total counted so far (cardinal principle) (cardinality)
- Links numerals with amounts up to 5 and maybe beyond • Explores using a range of their own marks and signs to which they ascribe mathematical meanings (cardinality)
- Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers (composition)
- Beginning to use understanding of number to solve practical problems in play and meaningful activities (composition)
- Beginning to recognise that each counting number is one more than the one before (composition)
- Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same (composition)
- Engages in subitising numbers to four and maybe five (cardinality)
- Counts out up to 10 objects from a larger group (cardinality)
- Matches the numeral with a group of items to show how many there are (up to 10) Composition (cardinality)
- Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects (cardinality)
- Begins to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees six raisins on a plate as three and three (cardinality)
- In practical activities, adds one and subtracts one with numbers to 10 (cardinality)
- Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and “+” or “-” (cardinality)
- Have a deep understanding of number to 10, including the composition of each number (number)
- Subitise (recognise quantities without counting) up to 5 (number)
- 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. (number)
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. (numerical patterns)

Strand	National Curriculum reference Year 1	National Curriculum reference Year 2	National Curriculum reference Year 3	National Curriculum reference Year 4	National Curriculum reference Year 5	National Curriculum reference Year 6
C1 Add / subtract mentally	1C1 Represent and use number bonds and related subtraction facts within 20	2C1a Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100	3C1 Add and subtract numbers mentally, including: - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds		5C1 Add and subtract numbers mentally with increasingly large numbers	

		2C1b Add and subtract numbers mentally, including: - a two-digit number and ones - a two-digit number and tens - two two-digit numbers - adding three one-digit numbers				
C2 Add / subtract using written methods	1C2a Add and subtract one-digit and two-digit numbers to 20, including zero	2C2 Add and subtract numbers using concrete objects and pictorial representations, including: - a two-digit number and ones - a two-digit number and tens - two two-digit numbers - adding three one-digit numbers	3C2 Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	4C2 Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	5C2 Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	
	1C2b Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs					
C3 Estimate, use inverses and check		2C3 recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems	3C3 Estimate the answer to a calculation and use inverse operations to check answers	4C3 Estimate and use inverse operations to check answers to a calculation	5C3 Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	6C3 Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
C4 Add/subtract to solve problems	1C4 Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and	2C4 Solve problems with addition and subtraction: - using concrete objects and pictorial representations, including	3C4 Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	4C4 Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and	5C4 Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and	6C4 Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and

	missing number problems such as $7 = \square - 9$	those involving numbers, quantities and measures - applying their increasing knowledge of mental and written methods		why	why	why
C5 Properties of number (multiples, factors, primes, squares and cubes) [KS2]					5C5a Identify multiples and factors, including finding all factor pairs of a number and common factors of two numbers	6C5 Identify common factors, common multiples and prime numbers
					5C5b Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	
					5C5c Establish whether a number up to 100 is prime and recall prime numbers up to 19	
					5C5d Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	
C6 Multiply / divide mentally		2C6 Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	3C6 Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	4C6a Recall multiplication and division facts for multiplication tables up to 12×12	5C6a Multiply and divide numbers mentally drawing upon known facts	6C6 Perform mental calculations, including with mixed operations and large numbers
				4C6b Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1;	5C6b Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	

				dividing by 1; multiplying together three numbers		
				4C6c Recognise and use factor pairs and commutativity in mental calculations		
C7 Multiply / divide using written methods		2C7 Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals (=) signs	3C7 Write and calculate mathematical statements for multiplication and division using the multiplication tables that children know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	4C7 Multiply two-digit and three-digit numbers by a one-digit number using formal written layout	5C7a 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	6C7a Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
					5C7b 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	6C7b 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
						6C7c Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context
C8 Solve problems (commutative, associative, distributive and all four operations)	1C8 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	2C8 Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	3C8 Solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which n objects are connected to m objects	4C8 Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit, integer scaling problems and harder correspondence problems	5C8a Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	6C8 Solve problems involving addition, subtraction, multiplication and division

				such as n objects are connected to m objects		
					5C8b Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	
					5C8c Solve problems involving multiplication and division including scaling by simple fractions and problems involving simple rates	
C9 Order of operations		2C9a Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot				6C9 Use their knowledge of the order of operations to carry out calculations involving the four operations
		2C9b Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot				