Year 3 Autumn 1

Starter suggestions for Number

- Read and write numbers to 1000 in figures and words.
- Count on and back in 1s, 10s or 100s from any two- or three-digit number.
- Count on and back in multiples of 4 or 8 from 0.
- Describe and extend number sequences involving counting on or back in different steps.
- Order a set of random numbers to 1000.
- Recall addition and subtraction facts for each number up to 20.
- Recall pairs of multiples of 100 that make 1000.
- Recall multiplication facts for 2, 3, 4, 5 and 10 times tables and derive associated division facts.
- Double any number up to 50.
- Halve any even two-digit number up to 100.

Starter suggestions for Measurement, Geometry and Statistics

- Identify and describe 2-D shapes, considering sides, corners and symmetry.
- Identify and describe 3-D shapes, considering faces, edges and vertices.
- Compare and sort common 2-D and 3-D shapes and everyday objects.
- Order and arrange combinations of mathematical objects in patterns and sequences.
- Describe position, direction and movement.
- Recognise quarter, half, three-quarter and full turns, including clockwise and anti-clockwise.
- Interpret and answer questions based on simple pictograms, tally charts, block diagrams and simple tables.

	Main learning	Rationale
Week 1 **Place value**	▪ Read and write numbers to at least 1000 in numerals and in words. ▪ Recognise the place value of each digit in a three-digit number (hundreds, tens and ones). ▪ *Partition numbers in different ways.* ▪ Identify, represent and estimate numbers using different representations, *including the number line.* ▪ Compare and order numbers up to 1000. ▪ *Round numbers to at least 1000 to the nearest 10 or 100.* ▪ Solve number problems and practical problems involving these ideas.	Understanding of the number system is necessary pre-requisite knowledge for any number work. Children should understand the Base 10 notion in which there are 10 numerals (0-9) and these can be organised in different ways to form any number. This is based on grouping in tens i.e. ten 1s are the same as one 10; ten 10s are the same as one 100; ten 100s are the same as one 1000 and so on. And vice versa. Partitioning numbers in different ways is an objective from Year 2, but requires consolidating to support later work on calculations. When comparing and ordering numbers, children should use a variety of resources, including the number line.
Week 2 **Place value and mental calculation**	▪ Find 1, 10 or 100 more or less than a given number. ▪ Add numbers mentally, including: a three-digit number and ones; and tens; and hundreds. ▪ Subtract numbers mentally, including: a three-digit number and ones; and tens; and hundreds. ▪ *Add and subtract mentally combinations of two-digit numbers.* ▪ *Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).* ▪ *Select a mental strategy appropriate for the numbers involved in the calculation.* ▪ *Understand and use take away and difference for subtraction, deciding on the most efficient method for the numbers involved, irrespective of context.*	Children apply their knowledge of place value to mentally calculate using addition and subtraction, recognising which digits will change and which will stay the same and why. Children should continue to count in ones, tens and hundreds. Children should also mentally calculate with two-digit numbers in which the answer is a three-digit number.
Week 3 **2-D shape, place value, measures, mental calculation in context of length**	▪ Draw 2-D shapes and describe them. ▪ Recognise angles as a property of shape. ▪ Measure, compare, add and subtract: lengths (m/cm/mm). ▪ *Understand that perimeter is a measure of distance around the boundary of a shape.* ▪ Measure the perimeter of simple 2-D shapes. ▪ *Derive and use addition and subtraction facts for 100.* ▪ *Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:* - *a 2-digit number and ones* - *a 2-digit number and tens* - *two 2-digit numbers* - *adding three 1-digit numbers.* ▪ *Select a mental strategy appropriate for the numbers involved in the calculation.* ▪ *Understand and use take away and difference for subtraction, deciding on the most efficient method for the numbers involved, irrespective of context.*	Children measure distances using a variety of tools and units and record these measurements in preparation for the following week. They measure and draw 2-D shapes. This gives children the opportunity to apply their place value and mental calculation knowledge in the context of length. Perimeter is a measure of distance linking length with mental addition and the opportunity to problem solve in context. Children should use mixed units e.g. 4m and 34cm and know simple equivalence between units.

	Main learning	Rationale
Week 4 **Present, interpret, mentally calculate in context of tables and bar charts**	▪ Interpret and present data using bar charts and tables. ▪ Solve one-step and two-step questions (for example, 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and tables. ▪ *Derive and use addition and subtraction facts for 100.* ▪ *Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:* - *a 2-digit number and ones* - *a 2-digit number and tens* - *two 2-digit numbers* - *adding three 1-digit numbers.* ▪ *Select a mental strategy appropriate for the numbers involved in the calculation.* ▪ *Understand and use take away and difference for subtraction, deciding on the most efficient method for the numbers involved, irrespective of context.*	The tables and bar charts can be created from measurements taken the previous week. Children are applying their knowledge of place value and mental calculation in the context of tables and bar charts.
Week 5 **Written addition**	▪ Add numbers with up to three digits, using formal written method of columnar addition. ▪ *Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).* ▪ Estimate the answer to a calculation and use inverse operations to check the answers. ▪ Solve problems, including missing number problems, using number facts, place value, and more complex addition.	Children build on their understanding of place value and skills in mental calculation to develop a written method for addition. Written methods should be agreed by the school and shared in the progression in written calculations policy. Efficient written methods are required to be taught by the end of Key Stage 2.
Week 6 **Written subtraction**	▪ Subtract numbers with up to three digits, using formal written method of columnar subtraction. ▪ *Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).* ▪ Estimate the answer to a calculation and use inverse operations to check the answers. ▪ Solve problems, including missing number problems, using number facts, place value, and more complex subtraction.	Children build on their understanding of place value and skills in mental calculation to develop a written method for subtraction. Written methods should be agreed by the school and shared in the progression in written calculations policy. Efficient written methods are required to be taught by the end of Key Stage 2.