Year 3 Spring 1

Starter suggestions for Number

- Count on and back in 1s, 10s or 100s from any two- or three-digit number.
- Partition three-digit numbers in different ways, *(e.g. 325 = 300 + 20 + 5 but is also 200 + 125 etc)*.
- Order a set of random numbers to 1000.
- Recall addition and subtraction facts for each number up to 20.
- Recall addition and subtraction facts for 100 (multiples of 5 and 10).
- State the addition fact that links to a subtraction fact and vice versa.
- Recall multiplication facts for 2, 3, 4, 5 and 10 times tables and derive associated division facts.
- Describe and extend number sequences involving counting on or back in different steps.
- State the multiplication fact that links to a division fact and vice versa.
- Double any number up to 100.
- Double any multiple of 50 up to 500.
- Halve any number up to 100.
- Count in fraction steps, e.g. $\frac{1}{5}, \frac{2}{5}, \frac{3}{5}$, etc.

Starter suggestions for Measurement, Geometry and Statistics

- Read scales to nearest whole unit.
- Use vocabulary of time including o'clock, a.m./p.m., morning, afternoon, noon and midnight.
- Tell and write time from an analogue clock and 12-hour and 24-hour clocks.
- Identify and describe 2-D shapes, considering sides, vertices 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.
- Interpret and answer questions based on pictograms, tally charts, block diagrams and tables.

	Main learning	Rationale
Week 1 Place value, counting and mental addition and subtraction	▪ Find 1, 10 or 100 more or less than a given number. ▪ Count from 0 in multiples of 50 and 100. ▪ *Describe and extend number sequences involving counting on or back in different steps.* ▪ Add and subtract mentally: - a three-digit number and ones - a three-digit number and tens - a three digit number and hundreds. ▪ *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. (Year 2 objective)* ▪ *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.* ▪ *Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.*	It is useful to begin a term with learning related to place value, as further learning in the term will be reliant on secure understanding of the number system. The place value work in this week is in the context of sequences and calculation. 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 2 Fractions	▪ Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. ▪ *Understand that finding a fraction of an amount relates to division.* ▪ Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. ▪ *Show practically or pictorially that a fraction is one whole number divided by another (for example, $\frac{3}{4}$ can be interpreted as 3 ÷ 4).*	The learning of fractions is an extension in understanding of the number system. Learning how to calculate fractions of amounts by sharing in practical contexts, is a valuable experience before making the link to division. Children's understanding of fractions should go beyond the 0-1 interval.
Week 3 Fractions, written and mental division	▪ *Understand that finding a fraction of an amount relates to division.* ▪ Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. ▪ *Understand how division statements can be represented using arrays.* ▪ *Understand division as sharing and grouping and use each appropriately.* ▪ *Select a mental strategy appropriate for the numbers involved in the calculation.* ▪ *Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.* ▪ Write and calculate mathematical statements for division using the multiplication tables that they know, including for two-digit numbers divided by one-digit numbers, using mental and progressing to formal written methods.	Children build on their understanding of fractions of shapes, using these shapes when sharing items into equal groups. The link between finding fractions of amounts and division is made. When children are calculating fractions of amounts, this should be in a context e.g. length, money, time to consolidate previous learning. When finding fractions of amounts, children need to understand that this is division by sharing.

	Main learning	Rationale
Week 4 **Measurement (volume/ capacity and mass)**	▪ Measure, compare, add and subtract volumes and capacities. ▪ Measure, compare, add and subtract masses. ▪ *Solve problems involving and measures.*	Children gain valuable practical experience of volume and capacity, and learn to understand the difference between the two. At this stage, volume refers to the amount of liquid within a container, and capacity is the maximum amount of liquid a container can hold. Both therefore are measured in l and ml. Children should develop an understanding of a 'benchmark' for estimating volume/capacity e.g. a can of fizzy drink is 330ml. Practical experiences should also further children's knowledge and understanding of mass, including the units of gram (g) and kilogram (kg), and they should develop an understanding of a 'benchmark' mass of a common familiar object e.g. a bag of sugar having a mass of 1kg. Children should call upon their knowledge of place value and calculations in the context of measurement.
Week 5 **Counting, sequences and multiplication**	▪ Count from 0 in multiples of 8. ▪ Recall and use multiplication and division facts for the 8 multiplication tables. ▪ *Use sorting diagrams to compare and sort numbers.* ▪ *Describe and extend number sequences involving counting on or back in different steps.* ▪ Write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. ▪ *Select a mental strategy appropriate for the numbers involved in the calculation.* ▪ *Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.*	Children build on their knowledge of the 4 times table to derive the 8 times table, recognising the relationship between the answers in both. 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 **Multiplication using statistics, measurement and money**	▪ Write and calculate mathematical statements for multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. ▪ *Select a mental strategy appropriate for the numbers involved in the calculation.* ▪ *Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.* ▪ *Solve problems involving money and measures.* ▪ Solve problems, including missing number problems involving multiplication, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	Children are introduced to pictograms in which each symbol is worth more than 1. They use their knowledge of multiplication and counting in equal steps to calculate in the context of pictograms. Other opportunities to consolidate measurement and money should be taken when asking children to calculate. 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.