Samuel Allsopp
Primary & Nursery School

MATHS (ARITHMETIC) PROGRESSION DOCUMENT

Progression of knowledge and skills					Arithmetic	
Year 1		**Arithmetic Lesson**	**National Curriculum – End of Year 1 Pupils will be able to:**	**Year 2**	**Arithmetic Lesson**	**National Curriculum – End of Year 2 Pupils will be able to:**
Autumn Term	Mastering Number Numbers to 10 Part Whole within 10 Addition within 10 Subtraction within 10 2d/3d Shapes	**Autumn 1** Mastering Number **Autumn 2** Week 1: Addition Week 2: Addition Week 3: Addition Week 4: Subtraction Week 5: Subtraction Week 6: Subtraction Week 7: Addition and Subtraction (mixed)	Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Given a number, identify one more and one less	Numbers to 100 Addition and subtraction (1) Addition and subtraction (2) Properties of shape	**Autumn 1** Week 1: Numbers within 100 fluency (counting on and backwards) Week 2: Numbers to 100 (estimation). Week 3: Numbers to 100 (comparing and ordering numbers) Week 4: Addition Week 5: Addition Week 6: Subtraction Week 7: Subtraction **Autumn 2** Week 1: Addition and subtraction (mixed) Week 2: Addition and subtraction (mixed) Week 3: Addition and subtraction (mixed) Week 4: two times tables practice Week 5: five times tables practice Week 6: 10 time tables practice	Recognise the place value of each digit in a two-digit number (tens, ones) Identify, represent and estimate numbers using different representations, including the number line Compare and order numbers from 0 up to 100; use <, > and = signs Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures Compare and sort common 2D

					Week 7: mixed 2,5,10 times tables practice. (in preparation for money unit in Spring 1).	and 3D shapes and everyday objects. Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line Order and arrange combinations of mathematical objects in patterns and sequences

Samuel Allsopp
Primary & Nursery School

MATHS (ARITHMETIC) PROGRESSION DOCUMENT

Spring Term	Numbers to 20 Addition and subtraction within 20 Numbers to 50 Length and Height Weight and Volume	**Spring 1** Week 1: Composition of number (20) Week 2: Composition of number (20) Week 3: Composition of number (20) Week 4: Addition and subtraction within 20 Week 5: Addition and subtraction within 20 **Spring 2** Week 1: Numbers to 50 Week 2: Numbers to 50 Week 3: Numbers to 50 (measure) Week 4: Greater than/less than/ equals symbols to compare and order numbers to 20. Week 5: Greater than/less than/ equals symbols to compare and order numbers to 20.	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number (to 20) Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least Add and subtract one-digit and two-digit numbers to 20, including zero Represent and use number bonds and related subtraction facts within 20 (within 10) Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems	Money Multiplication and division (1) Multiplication and division (2) Length and height Mass, capacity, temperature Statistics	**Spring 1** Week 1: 2's, 5's, 10's Week 2: 2's, 5's, 10's also Counting in 2's and counting in 20's Week 3: 2's. 5's, 10's Week 4: 2's. 5's, 10's Week 5: 2's. 5's, 10's **Spring 2** Week 1: 2's. 5's, 10's Week 2: 2's 5's,10's Week 3: Comparing numbers within 50 < = > Week 4: Comparing numbers within 50 < = > Week 5: Comparing numbers within 50 < = > Week 6: Counting on from a given number in 1's and 10's	recognise and know the value of different denominations of coins and notes recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value find different combinations of coins that equal the same amounts of money solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change 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 calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs solve problems involving multiplication and division, using materials, arrays, repeated addition, mental

		Week 6: Addition and subtraction- word problems mass/capacity.				methods, and multiplication and division facts, including problems in contexts recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts solve problems with addition and subtraction. choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels compare and order lengths, mass, volume/capacity and record the results using >, < and = addition and subtraction using concrete objects and pictorial representations, including those

Samuel Allsopp
Primary & Nursery School

MATHS (ARITHMETIC) PROGRESSION DOCUMENT

						involving numbers, quantities and measures
Summer Term	Multiplication and Division Halves and Quarters Position and Direction Numbers to 100 Money Time	**Summer 1** Week 1 Week 2 Week 3 Week 4 **Summer 2** Week 1 Week 2 Week 3 Week 4 Week 5 Week 6 Week 7 Week 8		Fractions Position and direction Time Problem Solving and efficient Methods	**Summer 1** Week 1 Week 2 Week 3 Week 4 **Summer 2** Week 1 Week 2 Week 3 Week 4 Week 5 Week 6 Week 7 Week 8	

Samuel Allsopp
Primary & Nursery School

MATHS (ARITHMETIC) PROGRESSION DOCUMENT

Progression of knowledge and skills						Arithmetic
Year 3		**Arithmetic Lesson**	**National Curriculum – End of Year 3 Pupils will be able to:**	**Year 4**	**Arithmetic Lesson**	**National Curriculum – End of Year 4 Pupils will be able to:**
Autumn Term	Place Value within 1000 Addition and Subtraction Multiplication and Division	**Autumn 1** Week 1: Place Value within 1000 Week 2: Place Value within 1000 Week 3: Place Value within 1000 Week 4: Addition Week 5:Addition Week 6:Subtraction Week 7: Subtraction **Autumn 2** Week 1: Addition and subtraction Week 2: Addition and subtraction Week 3: Multiplication Week 4: Multiplication Week 5: Division Week 6: Division	Identify, represent and estimate numbers using different representations, including the number line. Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). Compare and order numbers up to 1,000. Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number. Add and subtract numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds. Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. Add and subtract numbers with up to three digits, using	Place Value 4 digit numbers. Addition and subtraction. Measure- area. Multiplication and division.	**Autumn 1** Week 1: Place value (4 digit numbers) Week 2: Place value (4 digit numbers) Week 3: Place value (4 digit numbers) Week 4: Addition Week 5: Subtraction Week 6: Multiplication Week 7: Division **Autumn 2** Week 1: Multiplication Week 2: Multiplication Week 3: Division Week 4: Division Week 5: Fractions Week 6: Fractions Week 7: Decimals	Recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s). Count in multiples of 6, 7, 9, 25 and 1,000. Identify, represent and estimate numbers using different representations. Find 1,000 more or less than a given number Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number Order and compare numbers beyond 1,000 Round any number to the nearest 10, 100 or 1,000 Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Solve number and practical problems that involve all of the above and with increasingly large positive numbers. Estimate and use inverse

Samuel Allsopp
Primary & Nursery School

MATHS (ARITHMETIC) PROGRESSION DOCUMENT

		Week 7: Multiplication and division (mixed)	formal written methods of columnar addition and subtraction. Estimate the answer to a calculation and use inverse operations to check answers. Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables			operations to check answers to a calculation. Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. Find the area of rectilinear shapes by counting squares. Estimate, compare and calculate different measures, including money in pounds and pence. Recall multiplication and division facts for multiplication tables up to 12 × 12. 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

Samuel Allsopp
Primary & Nursery School

MATHS (ARITHMETIC) PROGRESSION DOCUMENT

Spring Term	Multiplication and division Length and perimeter Fractions Mass Capacity	**Spring 1** Week 1: Place value/counting in 10's Week 2: Multiplication/division facts up to 12x12 Week 3: Multiplication/division facts up to 12x12 Week 4: Metres and centimetres Week 5: Metres, centimetres and millimetres **Spring 2** Week 1: Reading simple fractions Week 2: < = > to compare fractions Week 3: Multiplication and division (10's and 100's) Week 4: Addition and subtraction (number line) Week 5: 2's, 5's 10's Week 6:halves, doubles and quarters within 100/1000.	write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) measure the perimeter of simple 2-D shapes recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators recognise and show, using diagrams, equivalent fractions with small denominators compare and order unit fractions, and fractions with the same denominators measure, compare, add and	Multiplication and division Length and perimeter Fractions Decimals	**Spring 1** Week 1: multiplication and division practice up to 12x12 Week 2: multiplication and division practice up to 12x12 Week 3: multiplying a single digit number by 10 and 100. Week 4: Equivalence of measures m and km using number lines Week 5: multiplying single digit numbers by 1000. **Spring 2** Week 1: counting in fractions steps from 0 on a number line. Week 2: Locating fractions on a number line. Week 3: Adding fractions Week 4: Subtracting fractions Week 5:Problem solving + and - fractions	recall multiplication and division facts for multiplication tables up to 12 × 12 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 recognise and use factor pairs and commutativity in mental calculations multiply two-digit and three-digit numbers by a one-digit number using formal written layout 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 such as n objects are connected to m objects convert between different units of measure [for example, kilometre to metre; hour to minute] measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators recognise and show, using diagrams, equivalent fractions with small denominators compare and order unit fractions, and fractions with the same

Samuel Allsopp
Primary & Nursery School

MATHS (ARITHMETIC) PROGRESSION DOCUMENT

			subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)		Week 6: Problem solving + and - fractions	denominators recognise and show, using diagrams, families of common equivalent fractions solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number add and subtract fractions with the same denominator recognise and write decimal equivalents of any number of tenths or hundredths find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
Summer Term	Fractions Money Time Angles and properties of shapes Statistics	**Summer 1** Week 1: Week 2: Week 3: Week 4: **Summer 2** Week 1 Week 2 Week 3 Week 4 Week 5 Week 6 Week 7 Week 8		Decimals Money Time Geometry- angles and 2D shapes Statistics Geometry- position and direction		

Samuel Allsopp
Primary & Nursery School

MATHS (ARITHMETIC) PROGRESSION DOCUMENT

Progression of knowledge and skills				Arithmetic		
Year 5		**Arithmetic Lesson**	**National Curriculum – End of Year 5 Pupils will be able to:**	**Year 6**	**Arithmetic Lesson**	**National Curriculum – End of Year 6 Pupils will be able to:**
Autumn Term	Number and place value (within 1000000) Addition and subtraction Fractions (including decimals and percentages)	**Autumn 1** Week 1: Number and place value Week 2: Number and place value Week 3: Addition Week 4: Subtraction Week 5: Addition and subtraction (mixed) Week 6: Multiplication Week 7: Division **Autumn 2** Week 1: Multiplication Week 2: Division Week 3: Multiplication and division mixed Week 4:Multiplication and division mixed Week 5: Fractions Week 6: Fractions Week 7: Fractions	Read Roman numerals to 1000 and recognise years written in Roman numerals. 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 1000000. Round any number up to 1,000,000 to the nearest 10, 100,1,000, 10,000 and 100,000 Add and subtract numbers mentally with increasingly large numbers Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy Estimate and use inverse	Number and place value (within 10000000) Addition, subtraction, multiplication and division. Fractions Measure (imperial and metric)	**Autumn 1** Week 1:Place value Week 2: Place value Week 3: addition Week 4:subtraction Week 5:multiplication Week 6: division Week 7: Four operations (mixed) **Autumn 2** Week 1:fractions Week 2:fractions Week 3:fractions Week 4:fractions Week 5: four operations (mixed) Week 6: four operations (mixed) Week 7: four operations (mixed)	Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. Solve number and practical Problems Round any whole number to a required degree of accuracy Use negative numbers in context, and calculate intervals across zero Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why Identify common factors, common multiples and prime numbers Use their knowledge of the order of operations to carry out calculations involving the four operations Recognise and use square numbers and cube numbers, and

Samuel Allsopp
Primary & Nursery School

MATHS (ARITHMETIC) PROGRESSION DOCUMENT

			operations to check answers to a calculation. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime). 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. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements as a mixed number.			the notation for squared (2) and cubed (3) (year 5) Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. 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 Use their knowledge of the order of operations to carry out calculations involving the four operations Perform mental calculations, including with mixed operations and large numbers Use common factors to simplify fractions; use common multiples to express fractions in the same denomination Compare and order fractions, including fractions > 1 Add and subtract fractions with different denominators and mixed numbers, using the

Samuel Allsopp
Primary & Nursery School

MATHS (ARITHMETIC) PROGRESSION DOCUMENT

			Compare and order fractions whose denominators are all multiples of the same number.			concept of equivalent fractions Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams Multiply simple pairs of proper fractions, writing the answer in its simplest form. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. Use written division methods in cases where the answer has up to two decimal places Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate Convert between miles and

Samuel Allsopp
Primary & Nursery School

MATHS (ARITHMETIC) PROGRESSION DOCUMENT

						Kilometres
Spring Term	Multiplication and division Fractions Decimals and percentages Measure- perimeter and area Graphs and tables	**Spring 1** Week 1: column multiplication Week 2: Number lines for dividing Week 3: Improper fractions and mixed numbers- matching to representations/finding on a number line. Week 4: converting fractions and decimals Week 5: finding equivalent decimals **Spring 2** Week 1: write thousands as fractions Week 2: write thousands as decimals Week 3: rounding on a number line (tenths) Week 4: multiplication Week 5: multiplication Week 6: multiplication 2's, 5's, 10's, 20's, 100's	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 multiplication and division multiply and divide numbers mentally drawing upon known facts multiplication and division 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 fractions (including decimals and percentages)recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 =6/5 = 1 1/5] (including decimals and percentages)multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams including decimals and percentages)read and write decimal numbers as fractions [for example, 0.71 = 71/100] (including decimals and percentages)recognise and use	Ratio and proportion Decimals and percentages Area and perimeter	**Spring 1** Week 1: multiplication and division facts up to 12x12 Week 2: Ratio- scale- multiplication/division Week 3: equivalent fractions/decimals Week 4: Dividing by powers of 10. Week 5: converting fractions to percentages and percentages to fractions. **Spring 2** Week 1: equivalent fractions, decimals and percentages Week 2: calculating simple area/ perimeter of rectilinear shapes. Week 3: calculating area of triangles Week 4:timetables multiplication and division facts 12x12 Week 5: timetables multiplication and division facts 12x12	solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts solve problems involving similar shapes where the scale factor is known or can be found solve problems involving unequal sharing and grouping using knowledge of fractions and multiples associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8] identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places multiply one-digit numbers with up to two decimal places by whole numbers use written division methods in cases where the answer has up to two decimal places solve problems which require answers to be rounded to specified degrees of accuracy compare and order fractions, including fractions > 1

			thousandths and relate them to tenths, hundredths and decimal equivalents (including decimals and percentages)round decimals with two decimal places to the nearest whole number and to one decimal place (including decimals and percentages)read, write, order and compare numbers with up to three decimal places (including decimals and percentages)recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal (including decimals and percentages)solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 20 measure and calculate the perimeter of composite rectilinear shapes in centimetres and metre calculate and compare the area of rectangles (including squares), and including using standard units, square		Week 6: Calculate volume using formulae.	multiply one-digit numbers with up to two decimal places by whole numbers recall and use equivalences between simple fractions, decimals and percentages, including in different contexts solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison recognise that shapes with the same areas can have different perimeters and vice versa recognise when it is possible to use formulae for area and volume of shapes calculate the area of parallelograms and triangles calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3]

			centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes solve comparison, sum and difference problems using information presented in a line graph complete, read and interpret information in tables, including timetables			
Summer Term	Geometry- properties of shape Geometry- position and direction Decimals Negative numbers Measure- converting units Measure- Volume and capacity	**Summer 1** Week 1 Week 2 Week 3 Week 4 **Summer 2** Week 1 Week 2 Week 3 Week 4 Week 5 Week 6 Week 7 Week 8		Statistics Geometry- properties of shape Geometry- position and direction Algebra	**Summer 1** Week 1 Week 2 Week 3 Week 4 **Summer 2** Week 1 Week 2 Week 3 Week 4 Week 5 Week 6 Week 7 Week 8	