

Maths Topic List – Spring Term

	YEAR	TOPIC NAME	CURRICULUM COVERAGE	BIG FINISH What children need to be able to do by the end
EYFS	RECEPTION	Addition and subtraction: numbers to 5, addition to 10	Introducing zero Number bonds to 5 Combining two groups to find the whole Number bonds to 10 – ten frame Number bonds to 10 – part whole model	• Begin to understand that numbers can be made by combining smaller numbers, including zero. • Use real-life objects and familiar contexts to explore the composition of numbers to 5. • Begin to use the 5 frame and part whole models to represent different parts which combine to make the whole. • Record using mathematical jottings. • Begin to combine two groups to find out how many altogether, subitising where possible, or counting in ones. • Explore number bonds to 10 using a ten frame and part whole model.
		Number and place value: numbers to 10	Counting 6, 7 and 8 Counting to 9 and 10 Comparing groups up to 10	• Count up to 10, forwards and backwards. • Represent numbers up to 10 in different ways and count out the required number of objects from a larger group. • Use ten frames, bead strings and fingers to subitise numbers to ten. • Make comparisons between sets by lining them up to compare directly, or by counting each set and comparing their position in the counting order. • Understand that a set can have more, fewer or the same number of items as another set. • Compare two sets, then three or more sets.
		Geometry: shape and space	Spatial awareness 3-D shapes 2-D shapes	• Begin to use positional language to describe how items are positioned in relation to other items. • Represent real places, or places in stories with drawings, maps or models. • Use language such as over, under, around and through to talk about places and journeys. • Know the names of simple 3-D shapes and sort according to similarities and differences. • Talk about the properties of 3-D shapes and their suitability for different uses. • Name and compare simple 2-D shapes. • Use 2-D and 3-D shapes to create representations and build models.

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KEY STAGE 1	YEAR 1	Number: addition and subtraction.	Add by counting on. Find & make number bonds. Add by making 10 Subtraction – Not crossing 10 / crossing 10 Related facts Compare number sentences	- Represent and use number bonds and related subtraction facts within 20. - Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs. - Add and subtract one-digit and two digit numbers to 20, including zero. - Solve one step problems that involve addition and subtraction, - using concrete objects and pictorial representations, and missing - number problems such as $7 = \square - 9$
		Place value (within 50)	Numbers to 50 50 One more one less. Compare objects and numbers within 50 Order numbers within 50 Count in 2s Count in 5s	- Count to 50 forwards and backwards, beginning with 0 or 1, or from any number. - Count, read and write numbers to 50 in numerals. Given a number, identify one more or one less. - 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 in multiples of twos, fives and tens.
		Measurement: Length and height	Compare lengths and heights Measure length	- Measure and begin to record lengths and heights. - Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half)
		Measurement: weight and volume	Introduce weight, mass, capacity and volume Measure and compare mass Introduce capacity and volume, compare capacity	- Measurement: Weight and Volume - Measure and begin to record mass/weight, capacity and volume. - Compare, describe and solve practical problems for mass/weight: [for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]

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LOWER KEY STAGE 2	YEAR 2	Multiplication and Division	Make equal groups – sharing & grouping Divide by 2,5,10 Odd & even numbers	- Recall and use multiplication and division facts for the 2, 5 and 10 times tables, including recognising odd and even numbers. - Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the appropriate signs. - Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts. - Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.
		Statistics	Make tally charts. Draw pictograms. Interpret & Draw pictograms Block diagrams	- Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. - Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. - Ask and answer questions about totalling and comparing categorical data.
		Properties of shape	Recognise 2D & 3D shapes. Count sides, vertices, draw lines of symmetry, sort and make patterns on 2D shapes. Count faces, edges, vertices, sort and make patterns with 3D shapes.	- Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. - Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. - Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid.] - Compare and sort common 2-D and 3-D shapes and everyday objects.
		Fractions	Make equal parts. Recognise & find a half, quarter, third. Unit fractions & non unit fractions. Equivalence of $\frac{1}{2}$ and $\frac{2}{4}$. Find three quarters, count in fractions	- Recognise, find, name and write fractions $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity. - Write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.
		Measurement: Length and Height	Measure length (cm) and (m) Compare and order lengths. Four operations with lengths	- Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ($^{\circ}\text{C}$); 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 $=$.

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LOWER KEY STAGE 2	YEAR 3	Number: Multiplication & Division	Comparing statements. Related calculations Multiply and Divide 2 digits by 1 digit. Scaling. How many ways?	- Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. - Write and calculate mathematical statements for multiplication and division using the multiplication tables 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.
		Measurement: Money	Convert pounds and pence. Add and Subtract money, give change.	Add and subtract amounts of money to give change, using both £ and p in practical contexts.
		Statistics	Pictograms Bar Charts Tables	- Interpret and present data using bar charts, pictograms 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 pictograms and tables.
		Measurement: Length & Perimeter	Measure, compare, add & subtract length. Equivalent lengths – m & cm and - mm & cm Measure and calculate perimeter.	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). Measure the perimeter of simple 2- D shapes.
		Number: Fractions	Unit and non-unit fractions. Making the whole. Count in tenths, tenths as decimals. Fractions on a number line Fractions of a set of objects	- Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. - Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. - Solve problems that involve all of the above.

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LOWER KEY STAGE 2	YEAR 4	Number: Multiplication & Division	11 and 12 times-table. Multiply 3 numbers. Factor pairs. Efficient multiplication. Written methods Multiply and divide 2-digits & 3-digits by 1-digit Correspondence problems	- Recall and use 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.
		Measurement: Area	What is area? Counting squares Making shapes Comparing area	- Find the area of rectilinear shapes by counting squares. - Recognise and show, using diagrams, families of common equivalent fractions. - Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. - 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.
		Number: Fractions	What is a fraction? Equivalent fractions Fractions greater than 1. Count in fractions Add & subtract 2 or more fractions Subtract from whole amounts Calculate fractions of a quantity Problem solving – calculate quantities	- 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 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths - Solve simple measure and money problems involving fractions and decimals to two decimal places. - Convert between different units of measure [for example, kilometre to metre]
		Number: Decimals	What is a decimal? Relationship between fractions as decimals	- Recognise tenths and hundredths, Tenths as decimals, on a place value grid, on a number line. - Divide 1-digit by 10 Divide 2-digits by 10 Hundredths - Hundredths as decimals, on a place value grid - Divide 1 or 2-digits by 100

UPPER KEY STAGE 2

YEAR 5

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YEAR 5	Number: Multiplication & Division	Multiply 4-digits by 1-digit Multiply 2-digits (area model) Multiply 2-digits by 2-digits, 3-digits by 2-digit, 4-digits by 2-digits Divide 4-digits by 1-digit Divide with remainders	• Multiply and divide numbers mentally drawing upon known facts. • Multiply numbers up to 4 digits by a one or two digit number using a formal written method, including long multiplication for 2-digit numbers. • Divide numbers up to 4 digits by a 1- digit number using the formal written method of short division and interpret remainders appropriately for the context. • Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.
	Number: Fractions	Equivalent fractions Improper fractions to mixed numbers Mixed numbers to improper fractions, Number sequences. Compare and order fractions less than 1 / greater than 1 Add and subtract fractions Add 3 or more fractions Add and subtract mixed numbers Subtract 2 mixed numbers Multiply unit fractions and non-unit fractions by an integer Multiply mixed numbers by integers Fraction of an amount Using fractions as operators	• Compare and order fractions whose denominators are multiples of the same number. • 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 >1 as a mixed number [for example $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$] • Add and subtract fractions with the same denominator and denominators that are multiples of the same number.
	Number: Decimals & Percentages	Decimals up to 2 d.p. Decimals as fractions (1) Decimals as fractions (2) Understand thousandths Thousandths as decimals Rounding decimals Order and compare decimals Understand percentages Percentages as fractions and decimals Equivalent F.D.P.	• Read, write, order and compare numbers with up to three decimal places. • Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. • Round decimals with two decimal places to the nearest whole number and to one decimal place. • Solve problems involving number up to three decimal places. • Recognise the percent 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. • 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 25

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UPPER KEY STAGE 2	YEAR 6	Number: Decimals	Three decimal places Multiply by 10, 100 and 1,000 Divide by 10, 100 and 1,000 Multiply decimals by integers Divide decimals by integers Division to solve problems Decimals as fractions Fractions to decimals (1)	- Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1,000 giving answers up to 3 decimal places. - Multiply 1-digit numbers with up to 2 decimal places by whole numbers. - Use written division methods in cases where the answer has up to 2 decimal places. - Solve problems which require answers to be rounded to specified degrees of accuracy
		Number: Percentages	Fractions to percentages Equivalent FDP Order FDP Percentage of an amount (1) Percentage of an amount (2) Percentages – missing values	- Solve problems involving the calculation of percentages [for example, of measures and such as 15% of 360] and the use of percentages for comparison. - Recall and use equivalences between simple fractions, decimals and percentages including in different contexts.
		Number: Algebra	Find a rule – one step Find a rule – two step Forming expressions Substitution Formulae Forming equations Solve simple one-step equations Solve two-step equations Find pairs of values Enumerate possibilities	- Use simple formulae. - Generate and describe linear number sequences. - Express missing number problems algebraically. - Find pairs of numbers that satisfy an equation with two unknowns. - Enumerate possibilities of combinations of two variables.
		Measurement: Converting Units	Metric measures Convert metric measures Calculate with metric measures Miles and kilometres Imperial measures	- Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. - 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 3 dp. - Convert between miles and kilometres.
		Measurement: Perimeter, Area & Volume	Shapes – same area Area and perimeter Area of a triangle Area of a triangle Area of a triangle Area of parallelogram Volume – counting cubes Volume of a cuboid	- 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 cm³, m³ and extending to other units (mm³, km³)
		Number: Ratio	Using ratio language Ratio and fractions Introducing the ratio symbol Calculate ratio Using scale factors Calculate scale factors Ratio and proportion problems	- 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.