Long Term Planning for Mathematics – Year 1

Unit and Objectives	Curriculum objectives	Vocabulary
Y1 Unit 1—Number and Place value Numbers to 10 2 weeks	• Count to ten, forwards and backwards, beginning with 0 or 1, or from any given number • Count, read and write numbers to 10 in numerals and words • 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 • Given a number, identify one more and one less • Count in multiples of 2s - Have not taught this yet, moving this to Spring 1 when teaching number and place value to 20.	0-100, More/less, digit, numeral, figures, in order, different order, size value, objects, numerals, words, show, identify, less, more, number line, bead string, tens frame, counters, , fewer, least, more.
Y1 Unit 2—Addition and Subtraction Addition and Subtraction within 10 3 weeks	• Represent and use number bonds and related subtraction facts [within 10] • Add and subtract one-digit … numbers [to 10], including zero • Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems	Number bonds, number line add, more, plus, make, sum, total, altogether, plus , inverse, double, near double, Equals, is the same as, equals sign, find the difference, difference between, how many more make? How many more/fewer is…than…? How much more is…? Subtract, take-away, Fewer, less, count on, count back, part-whole model
Y1 Unit 1—Number and Place value Numbers to 20 1 week	• Count to twenty, forwards and backwards, beginning with 0 or 1, or from any given number • Count, read and write numbers from 1 to 20 in numerals and words • 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 2s and 5s	0-100, More/less, digit, numeral, figures, in order, different order, size value, numerals, words, show, identify, less, more, number line, bead string, tens frame, counters, , fewer, least, more.
Y1 Unit 2—Addition and Subtraction Addition and subtraction within 20 2 weeks	• Represent and use number bonds and related subtraction facts within 20 • Add and subtract one-digit and two-digit numbers to 20, including zero • Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = [[– 9	Number bonds, number line add, more, plus, make, sum, total, altogether, plus , inverse, double, near double, Equals, is the same as, equals sign, find the difference, difference between, how many more make? How many more/fewer is…than…? How much more is…? Subtract, take-away, Fewer, less, count on, count back, part-whole model
Y1 Unit 6—Geometry—properties of shape Shapes and patterns 2 weeks	• Recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles]; 3-D shapes [for example, cuboids (including cubes), pyramids and spheres • Describe position, direction and movement, including whole, half, quarter and three-quarter turns	on, under, above, behind, next to, in front of, between, circle, triangle, rectangle, square, cube, pyramid, cuboid, cone, sphere, cylinder, side, corner, face, Position, over, underneath, below, top, side, bottom, in, outside, inside, around, front, back, before, after, beside, opposite, apart, middle, journey, left, right, up, down, forwards, backwards, sideways, across, close, far, near, along, through, to, from, towards, away from, movement, slide, roll, turn, whole turn, half turn, left turn, right turn, quarter turn, stretch, bend, Group, sort, cube, cuboid, pyramid, sphere, cone, cylinder, circle, triangle, square, shape, flat, curved, straight, round, hollow, solid, edge, centre, corner, direction, point, pointed, make, build, draw, rotated, vertex, vertices
Y1 Unit 2– Addition and subtraction Exploring calculation strategies within 20 2 weeks Consolidation week (best after holiday)	• Represent and use number bonds and related subtraction facts within 20 • Add and subtract one-digit and two-digit numbers to 20, including zero • Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • · Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = [ ] – 9	Number bonds, number line add, more, plus, make, sum, total, altogether, plus , inverse, double, near double, Equals, is the same as, equals sign, find the difference, difference between, how many more make? How many more/fewer is…than…? How much more is…? Subtract, take-away, Fewer, less, count on, count back, part-whole model

Unit and Objectives	Curriculum objectives	Vocabulary
Y1 Unit 1 - Number and Place value Numbers to 40 2 weeks	• Count to forty, forwards and backwards, beginning with 0 or 1, or from any given number • Count, read and write numbers from 1 to 40 in numerals and words • 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 • Given a number, identify one more and one less • Recognise the place value of each digit in a two-digit number (tens, ones) (Y2	0-100, More/less, digit, numeral, figures, in order, different order, size Value,
Y1 Unit 2 - Addition and Subtraction Adding and subtracting within 40 2 weeks	• Represent and use number bonds and related subtraction facts within 20 • Add and subtract one-digit and two-digit numbers to 40, including zero • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and tens; two two-digit numbers; adding three one-digit numbers (Y2) • Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = [ ] – 9	Number bonds, number line add, more, plus, make, sum, total, altogether, plus double, near double, Equals, is the same as, equals sign, find the difference, difference between, how many more make? How many more/fewer is…than…? How much more is…? Subtract, take-away, Fewer, less, count on, count back, part-whole model
Y1 Unit 5 - Measurement Length, weight and volume Applying addition and subtraction within 40	• Compare, describe and solve practical problems for: lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]; 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] • Measure and begin to record the following: lengths and heights; mass/weight; capacity and volume	Length, height, mass, weight, capacity, Full, half full, empty, holds, container, weigh, weighs, balances, heavy, heavier, heaviest, light, lighter, lightest, scales, estimate, close to, about the same, just over, just under, too many, too few, not enough, enough, length, width, depth, height, long, longer, longest, short, shorter, shortest, tall, taller, tallest, high, higher, highest, low, wide, narrow, deep, shallow, thick, thin, far, close, near, metre, ruler, metre stick, how many? How much?
Y1 Unit 1 - Number and Place Value Numbers to 60 1 week	• Count to forty, forwards and backwards, beginning with 0 or 1, or from any given number • Count, read and write numbers from 1 to 40 in numerals and words • 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 • Given a number, identify one more and one less • Recognise the place value of each digit in a two-digit number (tens, ones) (Y2	0-100, More/less, digit, numeral, figures, in order, different order, size Value,
Unit 2– Addition and Subtraction Adding and subtracting within 60 1 week	• Represent and use number bonds and related subtraction facts within 20 • Add and subtract one-digit and two-digit numbers to 40, including zero • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and Tens; two two-digit numbers; adding three one-digit numbers (Y2) • Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = [ ] – 9	Number bonds, number line add, more, plus, make, sum, total, altogether, plus , inverse, double, near double, Equals, is the same as, equals sign, find the difference, difference between, how many more make? How many more/fewer is…than…? How much more is…? Subtract, take-away, Fewer, less, count on, count back, part-whole model

Unit and Objectives	Curriculum objectives	Vocabulary
Y1 Unit 5 - Measures Time 2 Weeks	• Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times • Recognise and use language relating to dates, including days of the week, weeks, months and years • Compare, describe and solve practical problems for time [for example, quicker, slower, earlier, later] and measure and begin to record time (hours, minutes, seconds • Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	Time, days of the week, seasons, day, week, month, year, weekend, birthday, holiday, morning, afternoon, evening, night, midnight, bedtime, dinnertime, playtime, today, yesterday, tomorrow, takes longer, takes less time, hour, o'clock, half past, hands, clock, watch, how long ago? How long will it be to? How long will it take to? How often? before, after, next, last, now, soon, early, late, quick, quicker, quickest, fast, faster, fastest, slow, slower, slowest, slowly, old, older, young, younger, youngest
Y1 Unit 1 - Numbers and Place Value Numbers to 100 2 weeks	• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • Count, read and write numbers from 1 to 20 in numerals and words • 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 • Recognise the place value of each digit in a two-digit number (tens, ones) (Y2) • Identify, represent and estimate numbers to 100 using different representations (Y2) • Given a number, identify one more and one less • Read and write numbers to at least 100 in numerals and in words	0-100, More/less, digit, numeral, figures, in order, different order, size Value, estimate, represent, ones, tens, double, near double,
Y1 Unit 2– Addition and Subtraction Adding and subtracting within 100 3 weeks	• Represent and use number bonds and related subtraction facts within 20 • Add and subtract one-digit and two-digit numbers to 100, including zero • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and • tens; two two-digit numbers; adding three one-digit numbers (Y2) • Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = [ ]– 9	Number bonds, ones, tens, teen numbers, numerals, numbers in words, subtract, take away, add, addition, bigger, smaller, equals, two-digit, one-digit, add, addition, subtract, take away, bigger, smaller.
Y1 Unit 5 - Measures Money 2 weeks	• Recognise and know the value of different denominations of coins and notes • Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7p = [ ] – 9p	Money, coin, penny, pence, pound, price, cost, buy, sell, spend, spent, pay, change, dear, costs, cheaper, same as, total
Y1 Unit 3—Multiplication and Division Multiplication and division 2weeks	• 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.	Sharing, groups, hoops, compare, Odd, even, count in twos, threes, fives, count in Sharing, groups, hoops, compare, Odd, even, count in twos, threes, fives, count in
Y1- Fractions 1-2 weeks	• Recognise, find and name a half as one of two equal parts of an object, shape and quantity. • Recognise, find and name a quarter as one of four equal parts of an object, shape and quantity •	Fractions, half, quarter, numerator, denominator.

Long Term Planning for Mathematics – Year 2

Unit and Objectives	Curriculum objectives	Vocabulary
Y2 Unit 1 - Number and Place value Numbers within 100 3 weeks	• Use place value and number facts to solve problems • Recognise the place value of each digit in a two-digit number (tens, ones) • Identify, represent and estimate numbers to 100 using different representations, including the number line • Compare and order numbers from 0 up to 100; use <, > and = signs • Identify, represent and estimate numbers to 100 using different representations (to 1000 Y3) • Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) (Y3) • Compare and order numbers up to 100 (up to 1000 Y3) • Read and write numbers to at least 100 in numerals and in words • Read and write numbers up to 100 in numerals and in words (1000 Y3) • Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward • Count from 0 in multiples of 100; find 10 or more or less than a given number (100 y3) • NB– Expose children to working with these numbers in a variety of contexts including measure and scales	1-100, hundreds, partition, recombine, hundred more/less, hundreds column, compare, order, in words, greater than, less than symbols, place value, hundreds, tens and ones. tens ones place value grid partition more fewer fewest greatest smallest
Y2 Unit 2 - Addition and Subtraction Add and subtract 2 digit and 3 digit numbers 4 weeks	• Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and • tens; two two-digit numbers; • Add and subtract numbers mentally, including: a two digit number and ones; a two-digit number and tens; a two-digit number and hundreds (Y3 3 digits Y3) • Add and subtract numbers with up to three digits, using written methods in line with the calculation policy	Number bonds, number line, add, more, plus, make, sum, total, altogether, plus, inverse, double, near double, Equals, is the same as, equals sign, find the difference, difference between, how many more make? How many more/fewer is…than…? How much more is…? Subtract, take-away, Fewer, less, count on, count back, part-whole model, column, columnar, exchange, fact family number sentence number bond column 10 more 10 less
Y2 Unit 2 - Addition and Subtraction Problems involving calculation 2 weeks	• Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems • Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and • measures; applying their increasing knowledge of mental and written methods • Estimate the answer to a calculation and use inverse operations to check answers (Y3)	Number bonds, number line, add, more, plus, make, sum, total, altogether, plus, inverse, double, near double, Equals, is the same as, equals sign, find the difference, difference between, how many more make? How many more/fewer is…than…? How much more is…? Subtract, take-away, Fewer, less, count on, count back, part-whole model, column, columnar, exchange total tens ones subtract difference bar model represent
Y2 Unit 6 - Measure Measure Length 1 week	• Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers and scales • Compare and order length and record the results using >, < and = • Connect new learning to number work mastered and embed number and calculation strategies taught so far	m. cm, length, height, scales, measure, measurement, record, table, greater than, less than, equal to.

Unit and Objectives	Curriculum objectives	Vocabulary
Y2 Unit 6 - Measure Measure Mass 1 week	• Choose and use appropriate standard units to estimate and measure mass (kg/g) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels • Compare and order mass and record the results using >, < and = • Connect new learning to number work mastered and embed number and calculation strategies taught so far	grams, g, kilograms, kg, weight, unit, record, compare.
Y2 Unit 6 Measure Measure Capacity 1 week	• Choose and use appropriate standard units to estimate and measure capacity (litres/ml) and temperature (°C) to the nearest appropriate unit, using scales, thermometers and measuring vessels • Compare and order mass and record the results using >, < and = • Connect new learning to number work mastered and embed number and calculation strategies taught so far	ml, millilitre, litres, l, temperature, record, table, mass, weight, measure, length, height, heavy, light, capacity, full, nearly full, half full, nearly empty, empty.
Y2 Unit 3 - Multiplication and Division Multiplication and division 1 week	• 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 methods, and multiplication and division facts, including problems in contexts • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	Sharing, groups, hoops, compare, Odd, even, count in twos, threes, fives, count in
Y2 Unit 3 - Multiplication and Division Multiplication tables of 2, 5 and 10 2 week	• Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • 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 methods, and multiplication and division facts, • including problems in contexts • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	Sharing, groups, hoops, compare, odd, even, count in twos, threes, fives, count in, multiples, answer, equals
Y2 Unit 2 - Addition and subtraction Y2 Unit 3 - Multiplication and division Exploring calculation strategies 2 weeks	• Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and • tens; two two-digit numbers; adding three one-digit numbers • Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three-digit number and hundreds (Y3) • Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures; applying their increasing knowledge of mental and written methods • estimate the answer to a calculation and use inverse operations to check answers (Y3)	Number bonds, number line, add, more, plus, make, sum, total, altogether, plus, inverse, double, near double, Equals, is the same as, equals sign, find the difference, difference between, how many more make? How many more/fewer is…than…? How much more is…? Subtract, take-away, Fewer, less, count on, count back, part-whole model, column, columnar, exchange, multiply, divide, share, find, equals.

Unit and Objectives	Curriculum objectives	Vocabulary
Y2 Unit 4 - Fractions Fractions 2 weeks	• Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity. • Write simple fractions for example, $\frac{1}{2}$ of 6 = 3 • Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ Nb: remember to connect fraction to pre visited units such as length, mass, capacity, money etc	Three quarters, one third, a third, equivalence, equivalent, Whole, equal parts, four equal parts, one half, two halves, equal, a quarter, quarters, pictorial representation of…, numerator, denominator, equivalent equal parts, numerator denominator, fraction ,bar ,non-unit fraction ,unit fraction
Y2 Unit 6 - Measure Money 2 weeks	• Recognise and use symbols for pounds (Åí) 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.	pound (£) pence (p), coin, note ,change
Y2 Unit 6—Measure Time 2 weeks	• Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times • Know the number of minutes in an hour and the number of hours in a day • Compare and sequence intervals of time Nb. Link time to previously taught fraction work	half past, quarter past quarter to, minute hand, hour hand, duration, quarter past/to, analogue, digital, sequence, time, minutes, hours, days, months, weeks, intervals, length centimetre (cm) metre (m)
Y2 Unit 3 Multiplication and division Multiplication and division 3 x and 4 x 3 weeks	• Recall and use multiplication and division facts for the 3 and 4 multiplication tables (Y3) • Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) 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 multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	Multiply, repeated addition Groups of , lots of, shared between, commutative, facts, equals
Y2 Unit 6 - Geometry Faces, shapes, patterns, lines and turns	• *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* • *Order and arrange combinations of mathematical objects in patterns and sequences* • *Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)*	Rotation, clockwise, anti-clockwise, straight line, ninety degree turn, right angle, Size, bigger, smaller, larger, symmetrical, line of symmetry, fold, match, mirror line, reflection, pattern, repeating pattern, forwards, backwards ,left, right, middle, turn, half turn, quarter turn, three-quarter turn
Y2 Unit 7 - Statistics Graphs	• *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* *NB– this should not be the first time children have been exposed to data in year 2– they should be shown graphs and representations as a context for comparing and calculating earlier in term,*	Count, tally, sort, vote, graph, block graph, diagram, pictogram, represent, group, set, list, table, label, title, most popular, most common, least popular, least common

Long Term Planning for Mathematics – Year 3

Unit and Objectives	Curriculum objectives	Vocabulary
Y3 Unit 1– Number and Place Value *Reasoning within 1000* *3 weeks*	• Identify, represent and estimate numbers to 1000 using different representations (Y3) • Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) (Y3) • Compare and order numbers up to 1000 (Y3) • Read and write numbers up to 1000 in numerals and in words (Y3) • Count from 0 in multiples of 100; find 10 or 100 more or less than a given number (Y3) • Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction • Count from 0 in multiples of 50 and 100 • Find 10 more or less than a given number	1-1000, thousands column, consecutive, Addition, subtraction, hundreds, tens, ones, exchanging, exchange, crossing ten.
Y3- addition and subtraction within 1000 *5 weeks*	• Recall and use addition and subtraction facts to 100 fluently, and derive and use related facts up to 1000 • Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones; a two-digit number and Tens; two two-digit numbers; adding three one-digit numbers • Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction • Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three-digit number and hundreds • Estimate the answer to a calculation and use inverse operations to check answers • Solve number problems and practical problems involving these ideas • Identify, represent and estimate numbers using different representations, including the number line • add and subtract amounts of money to give change, using both £ and p in practical contexts.	Product, multiples of 4, 8, 50 and 100, scale up, Short multiplication, grid method, divisor, chunking, expanded method, short division
Y3 Unit 3 - Multiplication and division *6 weeks*	• Recall and use multiplication and division facts for the 3, 4 and 8multiplication tables • 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 • Make equal groups by grouping and sharing- • Divide by 2, 5 and 10. • Divide by 3, 4 and 8. • Multiply 2-digit numbers by one-digit numbers • Divide two-digit numbers by one-digit numbers.	Product, multiples of 4, 8, 50 and 100, scale up, Short multiplication, grid method, divisor, chunking, expanded method, short division Equal, multiply, divide, times-table, sharing grouping, array ,bar mode,l remainder, repeated addition, multiplication sentence, division statement.
Y3 Unit 4– Fractions Fractions 3 weeks	• 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 • 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 show, using diagrams, equivalent fractions with small denominators • Add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ • Compare and order unit fractions, and fractions with the same denominators • solve problems that involve all of the above	Numerator, denominator, unit fraction, non-unit fraction, compare, order, tenths, bisect

Unit and Objectives	Curriculum objectives	Vocabulary
Y3 Unit 6 - Measure Length and perimeter 2 weeks	• Measure, compare, add and subtract: lengths (m/cm/mm) • Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction • Measure the perimeter of simple 2-D shapes	Count, tally, sort, vote, graph, block graph, diagram, pictogram, represent, group, set, list, table, label, title, most popular, most common, least popular, least common Chart, bar chart, frequency table, carroll diagram, venn diagam, axis, axes, diagram, Continuous data, discrete, comparison, table, difference, time graphs
Y3 Unit 6– Measure weight and volume 3 weeks	• Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction • Continue to measure using the appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed units (for example, 1 kg and 200g) and simple equivalents of mixed units (for example, 5m = 500cm) •	Measure, compare, units, tools, mixed units. mass balance weighing scales gram (g) kilogram (kg) litre (l) millilitre (ml), volume, capacity, temperature, thermometer, degrees Celsius (°C) estimate, approximation
Y3 Unit 5 Geometry Angles and shape	• *Recognise angles as a property of shape or a description of a turn* • *Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles* • *are greater than or less than a right angle* • *Identify horizontal and vertical lines and pairs of perpendicular and parallel lines* • *Draw 2-D shapes and make 3-D shapes using modelling materials* • *Recognise 3-D shapes in different orientations and describe them* • *measure the perimeter of simple 2-D shapes*	Perpendicular and parallel lines, shape, 3D, 2D, three quarter, turns, horizontal, verticle, orentations, perimeter, movements, right angles, half, quarter, full.
Y3 Unit 5 - Measure *Time* *Analogue, digital and finding out how long*	• Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks • Estimate and read time with increasing accuracy to the nearest minute • Record and compare time in terms of seconds, minutes and hours • Use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight • Know the number of seconds in a minute and the number of days in each month, year and leap year • Compare durations of events [for example to calculate the time taken by particular events or tasks]	Leap year, twelve hour, twenty four hour clock, Roman numerals I-XII
Y3 Unit 7 - Statistics Graphs 2 weeks	• 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. • NB: Draw on and consolidate number and calculation strategies taught so far.	Chart, bar chart, frequency table, carroll diagram, venn diagam, axis, axes, diagram, pictogram, key, bar chart, scale, table, row, column, vertical axis

Long Term Planning for Mathematics – Year 4

Unit and Objectives	Curriculum objectives	Vocabulary
Y4 Unit 1 - Number and Place Value Reasoning with 4 digit number 2 weeks	• Identify, represent and estimate numbers using different representations • Find 1000 more or less than a given number; • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • Order and compare numbers beyond 1000 • Round any number to the nearest 10, 100 or 1000 • Solve number and practical problems that involve all of the above and with increasingly large positive numbers • Identify, represent and estimate numbers using different representations • Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value • Count in multiples of 6, 7, 9, 25 and 1000	Tenths, hundredths, decimal, decimal places, round to, round to the nearest, thousand more/less, negative integers, count through zero, Roman numerals I-C
Y4 Unit 2 - Addition and Subtraction Problem solving with integer addition and subtraction 3 weeks	• Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • Estimate and use inverse 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 • NB—apply prior knowledge of money, time and measure to vary context	Column addition, column subtraction, operations, exchanging, addition, total ,more than, subtraction, less than
Y4 Unit 7 - Statistics Discrete and continuous data 2 weeks	• *Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs* • *Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs* *NB– statistic works should be used to consolidate number and calculation work covered so far*	Continuous data, discrete, comparison, table, difference, time graphs
Y4 Unit 3 - Multiplication and division Multiplication and division 3 weeks	• Recall multiplication and division facts for multiplication tables up to 12 x 12 • 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 • Recognise and use factor pairs and commutativity in mental calculations • 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 • Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. • Multiply and divide by 10 and 100 • Solve problems using the above.	Multiplication facts up to 12x12, Division facts Inverse, derive, multiply (×) divide (÷) multiplication fact, division fact ,lots of, groups of, times-table, array
Y4 Unit 6 – Measure Time Time 1 week	• Use multiplication facts to convert between different units of measure [for example, hour to minute] • Problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days • Write and convert time between analogue and digital 12- and 24-hour clocks	analogue, digital, convert, intervals, minutes, hours, seconds, days, months, years,
Y4 Unit 6 - Measure Area and Perimeter 2 weeks	• Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • Convert between different units of measure [for example, kilometre to metre] • Find the area of rectilinear shapes by counting squares NB– apply mental and written calculation strategies taught so far.	Convert, perimeter, exterior, area, rectilinear shape length width perimeter distance rectangle square rectilinear shape centimetre (cm) metre (m) kilometre (km) equivalent to

Unit and Objectives	Curriculum objectives	Vocabulary
Y4 Unit 4 - Fractions, Decimals and Percentages Fractions 3 weeks	• Add and subtract fractions with the same denominator • 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	Equivalent decimals and fractions Relationship between, non-unit fractions, dividing, tenths, hundredths, diagrams, tenths hundredths, equivalent, simplify, numerator ,denominator, fraction, mixed number, improper fraction ,simplest fraction
Y4 Unit 4 - Fractions, Decimals and Percentages Decimals 2 Weeks	• 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 • Recognise and write decimal equivalents of any number of tenths or hundredths • Recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$ • Round decimals with one decimal place to the nearest whole number • Compare numbers with the same number of decimal places up to two decimal places	Equivalent decimals and fractions Relationship between, enths hundredths decimal point 0·1 and 0·01 equivalent whole number rounding greater than, less than.
Y4 Unit 2 - Addition and Subtraction Addition and Subtraction problems including decimals 2 Weeks	• Solve simple measure and money problems involving fractions and decimals to two decimal places • Estimate, compare and calculate different measures, including money in pounds and pence NB– remember to consolidate learning from measure during this unit	Column addition, column subtraction, operations, exchanging
Y4 Unit 5 - Geometry Co-ordinates, Shape and Symmetry 5 weeks	• Describe positions on a 2-D grid as coordinates in the first quadrant • Describe movements between positions as translations of a given unit to the left/right and up/down • Plot specified points and draw sides to complete a given polygon • Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • Identify acute and obtuse angles and compare and order angles up to two right angles by size • Identify lines of symmetry in 2-D shapes presented in different orientations • Complete a simple symmetric figure with respect to a specific line of symmetry	Coordinates, translation – left, right, quadrant, x-axis, y-axis, Quadrilateral, triangles, right angle, acute, obtuse, isosceles, equilateral, scalene, right-angled, angle, dodecagon, Polygon, kite, length width area space rectangle square rectilinear shape unit least greatest triangle quadrilateral reflection rotation

Long Term Planning for Mathematics – Year 5

Unit and Objectives	Curriculum objectives	Vocabulary
Y5 Unit 1 - Number and Place value Reasoning with large, whole numbers 2 weeks	• 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 1000 000 • Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 • Solve number problems and practical problems that involve all of the above • Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero • Read Roman numerals to 1000 (M) and recognise years written in Roman numerals	Powers of 10, 1-1,000,000, Negative integer, ones (1s), tens (10s), hundreds (100s) thousands (1,000s) ten thousands (10,000s), hundred thousands (100,000s) million (1,000,000), round ,order, ascending, descending.
Y5 Unit 2 - Addition and Subtraction Problem Solving with integer addition and subtraction 3 weeks	• 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 • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Formal written method Addition, subtractions, increase, decrease, check, accuracy, inverse, exchange, digits, hundreds, tens, ones, problem solving, reasoning
Y5 Unit 7– Statistics Line graphs and timetables 2 weeks	• Solve comparison, sum and difference problems using information presented in a line graph • Complete, read and interpret information in tables, including timetables	Line graph, timetable, interpret, information, tables, graph line graph table dual line graph horizontal vertical two-way table scale axis/axes data kilometre (km) kilogram (kg) plot/plotted tallies/tally digits.
Y5 Unit 3 Multiplication and Division Multiplication and Division 3 weeks	• Multiply and divide numbers mentally drawing upon known facts • Multiply and divide whole numbers by 10, 100 and 1000 • 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 • 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 • Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) • Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes • Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign • Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers • Establish whether a number up to 100 is prime and recall prime numbers up to 19	long multiplication, expanded method, compact method, remainders, factor pairs, composite number, prime number, prime factors, square number, cubed number, formal written method, square root, prime number, composite number , inverse operation, multiply, divide, multiple factor, prime factor
Y5 Unit 6 - Measure Converting weight, length (perimeter) and time 1 week	• Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) • Multiply and divide whole numbers by 10, 100 and 1000 • Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints • Solve problems involving converting between units of time	Volume, imperial units, metric units, inches, pints, pounds, cubic units, bredth, interior Area Perimeter, distance, area, space, length, width centimetre, square, centimetre (cm2), metre, square metre (m2) ,scale, compare, estimate, formula, 2D shape, brackets
Y5 Unit 6 - Measure Volume and area 2 weeks	• Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and • Estimate the area of irregular shapes • Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]	Volume, imperial units, metric units, inches, pints, pounds, cubic units, breath, interior area

Unit and Objectives	Curriculum objectives	Vocabulary
5 Unit 4—fractions decimals and percentages Fractions 3 weeks	• Compare and order fractions whose denominators are all multiples of the same number • 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, $\frac{2}{5}+\frac{4}{5}=\frac{6}{5}=1\frac{1}{5}$ • Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • Read and write decimal numbers as fractions [for example, 0.71 = $\frac{71}{100}$] • Add and subtract fractions with the same denominator and denominators that are multiples of the same number" • Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams • Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates	Proper fractions, improper fractions, mixed number, Percentage, per cent, half, quarter, one fifth, two fifths, etc. add subtract proper fraction improper fraction convert simplify equivalent fraction mixed number denominator numerator whole efficient common denominator
5 Unit 4—fractions decimals and percentages Decimals 3 weeks	• 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—include money and measure • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 • Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling	Proper fractions, improper fractions, mixed number, Percentage, per cent, half, quarter, one fifth, two fifths, etc. add subtract proper fraction improper fraction convert simplify equivalent fraction mixed number denominator numerator whole efficient common denominator
5 Unit 4—fractions decimals and percentages Percentages 2weeks	• 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 • Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2},\frac{1}{4},\ \frac{1}{5},\frac{2}{5},\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25	Proper fractions, improper fractions, mixed number, Percentage, per cent, half, quarter, one fifth, two fifths, etc. add subtract proper fraction improper fraction convert simplify equivalent fraction mixed number denominator numerator whole efficient common denominator multiply proper fraction improper fraction mixed number whole(s) equal parts divide fraction of an amount operator numerator denominator convert

Unit and Objectives	Curriculum objectives	Vocabulary
Y5 Unit 5—Geometry Angles, 2d shape and transformation 5 weeks	• Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles • Draw given angles, and measure them in degrees (o) • Identify: angles at a point and one whole turn (total 360o); angles at a point on a straight line and a turn (total 180o); other multiples of 90 degrees. • Identify 3-D shapes, including cubes and other cuboids, from 2-D representations • Use the properties of rectangles to deduce related facts and find missing lengths and angles • Distinguish between regular and irregular polygons based on reasoning about equal sides and angles • Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	Reflex angles, dimensions, Regular, irregular, polygons, Composite rectilinear, Translate, Adjacent Angle, whole turn, right angle, acute angle, obtuse angle, reflex, angle degree (°), interior, angle, clockwise, anticlockwise, orientation

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Unit and Objectives	Curriculum objectives	Vocabulary
Y6 Unit 1 - Number and Place value 2 weeks	• Read write and compare numbers to 10,000,000 and determine the value of each digit. • Round any number to a required degree of accuracy. • Use negative numbers and calculate intervals across zero. • Solve number and practical problems.	ten thousands (10,000s) hundred thousands (100,000s) millions (1,000,000s) ten million (10,000,000) place value partition interval estimate compare order rounding negative positive
Y6 Unit 2 - Addition, subtraction, 2 weeks	• Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why. • Solve problems including addition and subtraction. • Use estimation to check your answers.	column addition column multiplication
Y6 Unit 3 - multiplication and division 3weeks	• Multiply multi-digit numbers up to 4 digits by a two digit whole number . • 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 digit by a two digit whole number and interpret remainders as whole number remainders, fractions, or by rounding as appropriate for the context. • 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. • Perform mental calculations, including with mixed operations and large numbers. • Identify common factors, common multiples and prime numbers. • Use their knowledge of the order of operations to carry out calculations involving the four operations	short division long division remainder factor estimateactor common factor common multiple prime composite squared (2) cubed (3) order of operations brackets inverse operation
Y6 Unit 4 - fractions decimals and percentages 6 Weeks	• Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. • Compare and order fractions, including fractions > 1 • Convert Improper fractions and mixed fractions • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. • Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1⁄4 × 1⁄2 = 1⁄8] • Divide proper fractions by whole numbers [for example, 1/3 divide by 2=1/6) • Finding a fraction of an amount and be able to use this to find the whole. • Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3⁄8] • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. • Find percentages of amounts – one step and multistep problems. • 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	numerator denominator common denominator common factor equivalent simplify simplest form factor highest common factor lowest common multiple (LCM) compare order ascending descending proper fraction improper fraction mixed number convert lowest common denominator whole number mixed number proper fraction improper fraction convert simplify. multiply divide decimal decimal place (dp) recurring decimal placeholder place value tenth hundredth thousandth product fraction per cent (%) percentage part whole decimal fraction divide share multiply convert compare order equivalent fraction simplify less than ()

Unit and Objectives	Curriculum objectives	Vocabulary
6 Unit 4—Ratio & Proportions 3 weeks	• 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 the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison. • 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.	ratio proportion part whole scale scale factor similar notation
6 Unit 4—Geometry: Properties of Shapes.	• Draw 2-D shapes using given dimensions and angles. • Recognise, describe and build simple 3-D shapes, including making nets. • Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles	degree angle obtuse acute reflex right angle protractor triangle isosceles equilateral scalene regular polygon quadrilateral parallelogram kite rhombus trapezium diameter radius circumference concentric perimeter net pyramid tetrahedron cylinder prism vertically opposite angles cuboid cube, vertically opposite angles radius concentric diameter circumference net tetrahedron
Y6 Unit 5— Geometry: Position and Direction 2 weeks	• Describe positions on the full coordinate grid (all four quadrants) • Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	
Y6 Unit 6 - Measure 3 week	• 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 three decimal places • Convert between miles and kilometres. • 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 (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3].	metric imperial unit of measurement (or measure) gram (g) kilogram (kg) pound (lbs) ounce (oz) mass millilitre (ml) litre (l) pint capacity millimetre (mm) centimetre (cm) metre (m) kilometre (km) inch (in) foot (ft) yard (yd) mile length convert conversion table conversion graph
Y6 Unit 6 - Statistics Volume and area 2 weeks	• Interpret pie charts and line graphs and use these to solve problems • Interpret and construct pie charts and line graphs and use these to solve problems. • Calculate and interpret the mean as an average	quadrant four quadrants translate translation x-axis y-axis axis axes horizontal vertical vertex reflect reflection area volume perimeter parallelogram height enclosed width length square centimetre (cm2) square metre (m2) base estimate formula compound shape cubic centimetre

		mean average pie chart segment line graph bar chart percentage fraction

Unit and Objectives	Curriculum objectives	Vocabulary
Y5 Unit 7– Algebra 2 weeks	• 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.	sequence rule term algebra expression calculation formula substitute generalise operation calculate equation inverse solution