

Maths Curriculum Overview

Key Stage 1

The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools].

At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

By the end of year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency. Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

Lower Key Stage 2

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

Upper Key Stage 2

The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.

At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

By the end of year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils should read, spell and pronounce mathematical vocabulary correctly. See our Penryn Partnership [Calculation Policy](#) for methods of calculation.

The [National Curriculum Maths Programme of Study](#) provides the statutory content that must be taught to each year group.

Below is a grid showing how at Perran-ar-Worthal School we structure our maths teaching for EYFS and each year group in KS1 and KS2.

EARLY YEARS (RECEPTION)	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<p>Counting and numbers Recite numbers to 10, then 20. Say and use number in songs, rhymes and stories. Count up to objects to 10 in a line, or by moving them. Count out up to 10 objects from a larger set (know when to stop!).</p> <p>Counting and ordering Begin to match numerals to the number in a set. Order numerals to 10.</p> <p>2D Shape and position Describe the shape and size of shapes. Name circles, squares and triangles. Describe position.</p> <p>Counting and patterns Continue a repeating pattern with two colours/shapes/object s. Rehearse counting to 20 as you do patterns.</p> <p>Counting and addition Count on from any number to 10. Say the next number (for example say the number after a given number up to 10 without counting from 1). Read the corresponding addition.</p> <p>Addition and subtraction Find different ways to partition sets of five objects. Read the corresponding addition. Early subtraction – Guess how many are hiding. Mental addition by partitioning, mental subtraction by counting up.</p>	<p>Counting and numbers Count up to 10 objects which can't be moved. Match numerals to the number in a set. Understand zero to describe an empty set. Rehearse counting back from 10 to 0, including in songs, stories and rhymes. Count actions.</p> <p>Length Compare two lengths using direct comparison; use language of longer and shorter. Use uniform non-standard units to measure items up to 10 units long. Put three lengths in order.</p> <p>Length Compare two heights using direct comparison; use language of taller and shorter. Use uniform non-standard units to measure items up to 10 units high. Put three heights in order. Compare two numbers/quantities, use the language of 'more' and 'less'.</p> <p>3D Shape Begin to describe 3D shapes. Use 3D shapes to print and make models.</p> <p>Money and counting Recognise £1 and £2 coins. Compare prices in pounds up to £10 (by making lines of pound coins). Use money in role play (for example pound shop). Solve practical problems involving counting or role play.</p> <p>Time Use days of the week in context, for example story. Recognise a minute as unit of time. Count actions carried out in a minute (less than 20).</p>	<p>Counting and ordering Recite numbers to 20, then 100. Count back from at least 10 to zero. Order numerals to at least 10. Count up to 20 objects.</p> <p>Counting and ordinal numbers Ordinal numbers. Begin to estimate quantities, for example choose from 5, 10 or 20. Count actions and sounds.</p> <p>2D Shape and data Sort and describe 2D shapes. Symmetry. Name rectangles, squares, circles and triangles. Sort other objects using given criteria.</p> <p>Addition Mental addition. Say the next number (without counting from 1). Add 1 to any number. Add 2 to any number up to 10. Read the corresponding addition.</p> <p>Patterns and symmetry Continue a repeating pattern with three colours/shapes/object s. Symmetrical patterns.</p> <p>Counting and adding Mental addition. Find different ways to partition sets of ten objects, number bonds to 10. Read the corresponding addition. Early subtraction – Guess how many are hiding.</p>	<p>Counting and comparing Find one more and two more than any number to 10. One more than numbers to 20. Begin to record the number in a set. To 5, then 10.</p> <p>Weight Compare two weights using direct comparison; use language of heavier and lighter. Use uniform non-standard units to measure weights up to 10 units.</p> <p>3D Shape and data Recognise cube, cuboid and sphere. Sort 3D shapes according to whether they roll or not, stack or not.</p> <p>Counting and comparing Count back from 20 to 0. Compare numbers to 20. Read numbers to 20, match numerals to sets.</p> <p>Money and counting Recognise 1p, 2p, 5p and 10p coins and know the value of each. Solve practical problems involving counting or role play.</p> <p>Time Know how key times of day (hours only) are shown on the clock, analogue and digital. Begin to know months of the year, including important months, for example birthday, celebrated festivals. Text about time are used, including What's the Time Mr Wolf by Colin Hawkins and A Busy Year by Leo Lionni.</p>	<p>Counting Recite numbers to 100. Count in 1s and 10s to 100. Estimate from a given choice or range, for example 10, 20 or 100. Compare sets of objects, using the language more and fewer.</p> <p>Counting and addition Mental addition of 1, 2 or 3 to any number to 20 by counting on. Select the correct numeral to represent 1-10 objects. Compare using the words more and fewer.</p> <p>2-D Shape and data Sort irregular shapes according to number of corners/sides. Sort objects using criteria such as colour, curved, no. of corners, etc. Sort objects using their own criteria.</p> <p>Addition and subtraction Pairs with a total of 6 or 7. Doubles to double 5. Mental addition using counting up, mental subtraction using counting back.</p> <p>Counting and sequences Create and complete repeating patterns with two or three colours/shapes/object s/ actions. Count in 2s.</p> <p>Addition and subtraction Find one more and one less by counting on and back. Subtract two by counting back. Mental addition and subtraction.</p>	<p>Counting, addition and subtraction Count and record number of objects to 20. Count on or back 2 or 3. Mental addition and subtraction.</p> <p>Capacity Practical activities involving direct comparison of capacity, length and weight using the words more, less; tallest, shortest; longer, shorter and heavier, lighter.</p> <p>Counting and place value Recite, read and begin to record numbers to 20, then 100. Fill in missing numbers in a track to 20.</p> <p>3D Shape and direction Recognise, describe and sort 3D shapes: cube, cuboid, cylinder, sphere, cone and pyramid. Follow directions : left and right.</p> <p>Money, addition and subtraction Recognise all coins. Very simple mental addition and subtraction word problems involving money, counting up and counting back.</p> <p>Time Days of the week. Count actions carried out in a minute (more than 20). 60 seconds in a minute. Activities done in 1 minute. Requires a book about days of the week, such as Jaspers Beanstalk by Nick Butterworth and Mick Inkpen.</p>

Y1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<p>Counting and sequences Recite numbers to at least 20: Count reliably up to 20 objects. Recognise that rearranged number of objects stays the same. Order numbers to 20 on a track. Say number before/after any given number to 20. Make a sensible estimate up to 20. Make each 'teens' number by adding more to 10 (for example using cubes or beads). Partition each 'teens' number into 10 and the rest.</p> <p>Mental addition Understand addition as combining two sets and record the related addition sentences. Relate counting on to addition. Partition 5 into two groups and record the related addition sentences. Method used is partitioning.</p> <p>Money and time Recognise 1p, 2p, 5p and 10p coins. Find totals of two coins from 1p, 2p, 5p and 10p, using mental addition and partitioning. Use vocabulary related to time; read the time to the hour (o'clock) and half past the hour.</p> <p>Measures and shape Estimate, measure and compare objects. Choose and use suitable uniform non-standard or standard units. Create and find symmetrical patterns.</p> <p>Addition and subtraction Mental addition by counting on and subtraction by counting back. Understand subtraction as 'take away'. Count what's left and record the related subtraction sentences. Relate counting on 1 or 2 to addition. Understand a word problem and decide what action is needed to solve it.</p> <p>Sequences and shapes</p>	<p>Doubling and halving and time Find doubles to double 5. Try to share numbers to 10 to find which are even and which are odd. Find odd and even numbers on a 1–10 track. Count in twos from 1 and 2 to find odd and even numbers to 20. Use vocabulary related to time. Order days of the week and months.</p> <p>Shape and data Visualise and name common 2 dimensional (2D) shapes, describe their features, use them to make patterns, pictures and models. Begin to use statistics; Answer a question by recording information in lists and tables, using practical resources.</p> <p>Addition and subtraction Using mental addition and subtraction to; Find one more/less than any number up to 20. Find two more/less than any number up to 20, recording the hops on a beaded line. Relate counting on to addition and counting back to subtraction. Find one more/less than any two-digit number, including one more than 29, 39, etc. Partition 10 into different pairs.</p> <p>Addition and subtraction Use mental addition and subtraction to: Partition 6, 7 and 10 and record the related addition sentences; begin to find the corresponding subtraction facts. Relate counting on to addition; Add 2, 3 or 4 by counting on. Add a pair of numbers by putting the larger number first.</p> <p>Counting, addition and subtraction Count from 1 to 100, count to 100 from any given number. Find one more and one less than a number up to 100. Know number</p>	<p>Counting and sequences Count to 100; Find one more or one less than any number to 100; Count in 10s from 10; Count in 10s from any number; Find 10 more and 10 less than a given number, estimate a quantity.</p> <p>Addition Know number bonds to 6, 8, 9 and 10; Add doubles together recording in a number sentence. Add more than two small numbers, spotting pairs to ten and doubles. Method used is mental addition - partitioning.</p> <p>Addition, subtraction and money Recognise 1p, 2p, 5p, 10p, £1 coins; Find totals using more than two coins up to 10p in value; Work out what coins can be used to pay an amount up to 10p; Begin to find all possibilities by making an ordered list; Use place value to count on in tens from single digit numbers and back; Relate counting on in tens to find 10 more/less than any two-digit number. Methods used are mental addition and subtraction.</p> <p>Weight and time Estimate, measure and compare objects, choosing and using suitable uniform non-standard or standard units. Children read What's the time Mr Wolf? by Debi Gliori or Colin Hawkins before using vocabulary related to time. They read the time to the hour (o'clock) and half past the hour.</p> <p>Doubles, halves, sequences and data Count in tens; Count in twos using repeated mental addition; Recognise number sequences; Know odd and even numbers; Double numbers to 10, halve even numbers to 20; Use sorting diagrams.</p>	<p>Lengths and subtraction Measure objects using non-standard units of measurements (cubes); Estimate and compare lengths: Use mental subtraction to find a difference in height/length by counting up; Find numbers with a given difference; Begin to use a systematic way of recording results and data.</p> <p>Capacity and data Understand the term 'capacity'; Compare different capacities by direct comparison; Estimate, measure and compare capacities using uniform non-standard units; Present data in pictograms and block graphs and answer questions about them.</p> <p>Addition and subtraction Using mental addition by partitioning, find pairs to 6, 7, 8, 9 and 10; Begin to relate addition and subtraction facts; Find doubles and near doubles; Add 10 then small multiples of 10 to 2-digit numbers. Using mental subtraction by counting back, subtract 10 and then small multiples of 10 from 2-digit numbers.</p> <p>Addition Know number bonds to 10 and use pairs to ten to bridge ten (8+2, 8+3...) with visual support; Add single-digit amounts of pence, bridging 10p; Sort calculations according to whether they will bridge ten or not. Method used is mental addition by partitioning.</p> <p>Addition, subtraction and money Find ways to pay amounts up to 20p; Find totals of single-digit prices using known facts or counting on; Add 10p and 20p to two-digit amounts of money; Find change from 10p; Find the difference</p>	<p>Place value and fractions Recite numbers to 100; count up to 100 objects (for example beads on a bead bar); count on in tens from single-digit numbers and back; order numbers to 100 on a track, then a beaded line; compare two numbers less than 100, say which is more or less; say a number between any given neighbouring pairs of multiples of ten (for example 40 and 50). Work out halves and quarters of shapes and amounts.</p> <p>Addition and subtraction Add and subtract 10 or 11 from 2-digit numbers. Mental addition and subtraction using near multiples and place value.</p> <p>Addition and subtraction Use pairs to add to 10 and use pairs to ten to bridge ten when adding and then subtracting with visual support. Sort calculations according to whether they will bridge ten or not. Mental addition and subtraction using partitioning and counting back.</p> <p>3D Shape and time Visualise and name common 3D shapes, describe their features, use them to make patterns and models. Use vocabulary related to time. Read the time to the hour (o'clock) and half past the hour</p> <p>Multiplication and division Mental multiplication and division: Use counting in 2s, 5s or 10s to solve a practical problem involving repeated addition. Begin to use a penny number line to work out multiplication by finding how many sets of. Work out simple division problems by finding how many sets in a given number.</p>	<p>Addition Use pairs to ten to find the complement to the next multiple of ten, using a bead string or beaded number line for support. Add single digit numbers to 2-digit numbers using patterns and number facts including doubles, pairs to 10 and finding numbers that can easily be added together using these facts. Mental addition using partitioning.</p> <p>Time, position and direction Know the order of days of the week and months of the year, say a consecutive day/month. Tell the time to the nearest half hour, find times half an hour later. Recognise 3D shapes and discuss how they have been turned. describe direction and position of 3D shapes.</p> <p>Multiplication and division Mental multiplication and division: Double and halve. Understand multiplication as repeated addition. Use multiplication sentences to describe a practical problem and begin to make some links to division (how many sets of). Understand grouping as one model of division. Begin to describe how to solve a word problem.</p> <p>Addition, subtraction and money Add and subtract single-digit numbers to and from 2-digit numbers using facts. Know which operation to use to work out number sentences. Find totals of money amounts and know the best order to add amounts. Work out change by finding the difference. Mental addition using partitioning and mental subtraction using counting up.</p> <p>Time Recognise and use</p>

	Count to 100 in ones and tens from zero. Count on/back starting from any number up to 20. Order numbers to 20 on a track, then a beaded line. Mark on numbers just before and after 5, 10, 15, and 20. Compare two numbers less than 20: say which is more or less. Recognise halves and quarters fractions of shapes.	bonds to 6 and 7. Use ordinal numbers in context. Know number bonds to 10 and finding matching number pairs quickly using mental addition - partitioning.	Sequencing and place value Know what each digit means in a 2-digit number, partition 2-digit numbers into tens and units; Order numbers to 100 on a track, then a beaded line; Compare two numbers less than 100, say which is more or less; Say a number between any given neighbouring pairs of multiples of ten (for example 40 and 50); Investigate and create different 2-digit numbers.	between amounts of money less than 20p, with a difference of 5p or less. Children use mental addition by partitioning and mental subtraction by counting up.	Addition, subtraction and money Mental addition and subtraction with money: Find totals to 20p, find totals of different amounts using number facts and partitioning. Add ten and twenty pence to different amounts. Find change by finding the difference and counting on. Find differences between money amounts.	language relating to dates, including days of the week, weeks, months and years. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. Recognise half-past digital and analogue times. Sequence events in chronological order using language, for example before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.
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Y2	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Sequences and place value Mark 2-digit numbers on a beaded then landmarked line; order and compare numbers to 100; say a number between any given neighbouring pairs of multiples of ten; count on in tens from 1 and 2-digit numbers and back again; make a sensible estimate up to 100; show 2-digit numbers on a bead string and write the corresponding addition; partition 2-digit numbers into multiples of ten and one; mental addition and subtraction using place value/partitioning. Number facts and counting Mental addition and subtraction by partitioning all numbers to 10, then 20 into pairs; use the = sign to represent equality (e.g. $6 + 4 = 7 + 3$); recognise the use of a symbol such as ■ to represent an unknown; count on in tens from any 1-digit number then any number, and back again; relate counting on/back in tens to finding 10 more/less Money and time Coins: Recognise, find the total value of two, find totals up to 20p, find change from 20.	Doubling, halving, addition and subtraction Find doubles to double 20 and corresponding halves; add and subtract 10, 20, 11 and 21. Mental addition and subtraction using near multiples and partitioning. 2D Shape and data Recognise common 2D shapes, identify from pictures in different positions and orientations; draw, sort and describe 2D shapes, referring to their properties including symmetry and right angles ('square' corners). Addition and subtraction Know pairs with a total of 20 and derive the subtraction facts; recognise the use of a symbol such as ■ to represent an unknown; add/subtract a single digit to/from a 2-digit number not crossing tens using number facts and pattern; add/subtract a single digit to/from a 2-digit number by bridging multiples of ten using knowledge of pairs to ten, place value/partitioning and counting up . Addition and subtraction Add and subtract 20,	Number and place value Mark 2-digit numbers on a landmarked line; compare numbers using the symbols < and >; use ordinal numbers in context up to 10th and beyond; use knowledge of order of numbers and properties of number (e.g. odd/even, multiples to describe/sort numbers); solve logic problems; round 2-digit numbers to nearest multiple of ten. Addition and subtraction Use pairs to ten to find the complement to the next multiple of ten; use place value to add and subtract; mental addition and subtraction of a single digit to/from a 2-digit number by bridging multiples of ten using partitioning, near multiples and place value; understand that addition can be done in any order, but not subtraction; sort calculations as to whether number facts or place value can be used to help identify the useful number fact. Addition and subtraction Add/subtract 2-digit numbers by adding/subtracting	Addition and subtraction Add 2-digit numbers using grid and Spider; add 2-digit numbers that cross the tens barrier; subtract 2-digit numbers using grid and Spider; finding the difference in the context of change. Mental addition and subtraction using partitioning, counting back and counting up. Capacity and data Estimate, measure and compare capacities, choosing and using suitable non-standard and standard units and suitable measuring instruments; answer a question by collecting and recording data, and representing it as block graphs and pictograms to show results. Multiplication and division Understand how to read an array; know that multiplication can be done in any order; use beaded lines and grouping, then hops to work out division problems; create own word problems involving division and multiplication; sort division and multiplication word problems; know that division is the inverse of multiplication.	Sequences and fractions Count in two, fives, tens and threes. Recognise multiples of 2, 5, 10 and 3. Find halves, quarters and three quarters of amounts. Addition and subtraction Mental addition and subtraction: double and half using partitioning. Add 2-digit numbers by partitioning or counting on. Subtract a 2-digit number from another by counting back. Subtraction and money Mental subtraction by counting up and counting back. Choose whether to count back or up to subtract. 3D Shape and time Identify 3D shapes and their properties. Tell the time to the nearest quarter of an hour and 5 minutes. Multiplication and division Mental multiplication and division: multiply by 2, 5, and 10 using a beaded line. Understand division as the inverse of multiplication and use beaded lines to divide by 2, 5, and 10. Solve word problems using multiplication and division.	Addition and subtraction Mental addition of pairs of 2-digit numbers by partitioning or counting on. Mental subtraction by counting up or counting back. Choose to add or subtract to solve money word problems. Time and data Know by heart the names and order of the days of the week and months of the year. Construct a block graph. Tell the time to the nearest quarter of an hour and 5 minutes. Multiplication and division Mental multiplication and division: halve or double a 2-digit number. know that multiplication is the inverse of division. Multiply and divide using sets or beaded lines. Solve word problems using multiplication and division. Addition, subtraction and money Use and recognise coins. Mental addition of 2-digit amounts using partitioning or counting up. Mental subtraction by finding a difference or counting back. Use addition and subtraction to solve 2-step money problems.

	<p>Find all possibilities by making an ordered list. Read the time to the quarter of an hour on digital and analogue clocks, begin to identify time intervals. Mental addition using partitioning and adding near multiples. Mental subtraction using counting up.</p> <p>Length, position and direction</p> <p>Measure the length of objects using standard units (decimetre, centimetre and metre); identify left and right; recognise whole, half and quarter turns, both clockwise and anticlockwise; recognise that a right angle is a quarter turn.</p> <p>Money, addition and subtraction</p> <p>Use pairs to ten to find the complement to the next multiple of ten; find change from 20p; add and subtract 10, 11 and 20 in the context of money. Mental addition using near multiples and partitioning. Mental subtraction using counting up.</p> <p>Sequences and fractions</p> <p>Count in tens from any number; recognise multiples of 10; begin to use multiplication; count in twos: recognise odd and even numbers; find halves and quarters of shapes.</p>	<p>30, 40, 50 to/from two-digit numbers (answer less than 100); add 11, 12, 13, 21, 22, 23, 31, 32 and 33 to two-digit numbers (answer less than 100); begin to subtract 11, 12, 21 and 22 from two-digit numbers. Mental addition and subtraction using near multiples.</p> <p>Addition</p> <p>Add 2-digit numbers by counting on in tens and ones; add near multiples of 10 by adding tens and adjusting; identify and test patterns. Mental addition by partitioning and adding near multiples.</p>	<p>multiples of ten then one; add/subtract using a 1-100 number square and landmarked lines. Mental addition and subtraction using near multiples, partitioning and counting back.</p> <p>Weight and time</p> <p>Estimate, measure and compare weights, choosing and using suitable standard units and suitable measuring instruments; use units of time (seconds, minutes, hours, days and weeks) and know the relationship between them; read time to the quarters; measure activities using seconds and minutes.</p> <p>Multiplication and division</p> <p>Twos, Fives and Tens: count from any number to 100, recognise multiples, use grouping to count larger groups; investigate a statement about familiar numbers by finding examples which satisfy it; find, describe and continue patterns; understand multiplication as repeated addition; use multiplication to describe an array; understand grouping as a model of division; understand that division can leave some left over; solve a word problem. Mental multiplication and division.</p> <p>Number and fractions</p> <p>Compare two 2-digit numbers; describe properties of numbers; locate numbers on a number line; find numbers in between 2 given numbers; round numbers to the nearest ten; find fractions of amounts halves, quarters and thirds by sharing and using known number facts.</p>	<p>Mental multiplication and division.</p> <p>Addition and subtraction</p> <p>Sort calculations according to whether they are known facts or need to be worked out; use facts to add four or five small numbers, by spotting pairs to ten/doubles; rehearse addition/subtraction of two 2-digit numbers; begin to sort number problems into whether addition and subtraction is needed to work them out. Mental addition using partitioning. Mental subtraction using counting back.</p> <p>Addition, subtraction and money</p> <p>Understand difference as one model of subtraction; mental subtraction of 2-digit numbers using near multiples of 10 by counting up, partitioning and place value; recognise coins and find totals using a combination of coins; add two 2-digit money amounts together using mental addition by partitioning.</p>	<p>Place value</p> <p>Place 2-digit numbers on a line. Round 2-digit numbers to the nearest 10. Order and compare 3-digit numbers. Mental addition using partitioning and place value.</p>	<p>Fractions and time</p> <p>Find halves, thirds and quarters of amounts. Tell the time in analogue and digital to the nearest 5 minutes. A day on solving word problems using mental multiplication and division is also included.</p>
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Y3	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<p>Place value and money Place two and three-digit numbers on a line; Order and compare three-digit numbers; Understand place value in three-digit numbers; Understand and use place value with money</p> <p>Addition and subtraction Know number bonds to 20 and use them in addition and subtraction; Use = to represent equality; Add 1-digit to 2-digit numbers; Subtract 1-digit from 2-digit numbers. Mental addition and subtraction using place value, partitioning and counting back.</p> <p>Addition and subtraction Mental addition of pairs of two-digit numbers by partitioning; Mental subtraction of pairs of two-digit numbers by counting up; Find change from £1.</p> <p>Shape and symmetry Recognise lines of symmetry, complete symmetrical drawings; Describe, name and sort 2D shapes, Describe, name and sort 3D shapes, learn and use correct vocabulary.</p> <p>Multiplication and division Use mental multiplication to double 2-digit numbers. Halve small even numbers. Know \times and \div facts for 2, 5 and 10 times tables. Understand that multiplication is commutative. Recognise multiples of 2, 5 and 10.</p> <p>Addition and subtraction Understand and use place value to add and subtract; Use place value in money to add and subtract; Add/subtract 1, 10 and 100 to/from any 3-digit number.</p>	<p>Addition and subtraction Use place value to add and subtract 1s, 10s, 100s to/from 2 and 3-digit numbers; Mental addition and subtraction using near multiples of 10 from 3-digit numbers.</p> <p>Addition and subtraction Use place value to add and subtract 1s, 10s, 100s to/from 2 and 3-digit numbers; Mental addition and subtraction of near multiples of 10 from 3-digit numbers.</p> <p>Time and data Tell the time to five minutes using analogue, digital and Roman numeral clocks; Understand and use am and pm times appropriately; Collect data and display using bar graphs and pictograms</p> <p>Multiplication and division Mental multiplication and division: Know multiplication facts for the 3 and 4 times tables up to the 12th multiple, derive corresponding division facts; Divide by 2, 3, 4, 5 and 10, including giving remainders.</p> <p>Fractions Understand concept of a fraction of a shape and quantity; Find fractions of a quantity: $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$, $\frac{1}{8}$.</p>	<p>Place value Place 3-digit numbers on a line; order and compare 3-digit numbers; find a number between two 3-digit numbers; understand place value in 3-digit numbers.</p> <p>Addition and subtraction Mental addition and subtraction: Add and subtract pairs of 2-digit numbers using partitioning and near multiples; Add three 2-digit numbers. Mental subtraction using counting back and counting up.</p> <p>Addition and subtraction Written addition: Add three-digit numbers using expanded addition (one 'carry'); Mental subtraction: count up to subtract two-digit numbers from three-digit numbers; use addition to check subtraction.</p> <p>Measures and data Measure/convert lengths in centimetres and metres; measure/convert weight in kilograms and grams; estimate, measure objects and record in tables; represent and interpret data in bar charts.</p> <p>Fractions Count in $\frac{1}{4}$s and $\frac{1}{2}$s; understand concept of fractions; begin to understand eighths; fractions with a total of 1: $\frac{1}{4} + \frac{3}{4} = 1$, $\frac{2}{3} + \frac{1}{3} = 1$, $\frac{5}{8} + \frac{3}{8} = 1$.</p> <p>Place value and division Understand place value in 3-digit numbers, including money; Mental multiplication and division: multiply and divide numbers by 10 and 100 and understand the effect; understand that division is the inverse of multiplication.</p>	<p>Addition and subtraction Mental addition and subtraction of 1-digit numbers to and from 3-digit. Mental addition and subtraction of multiples of 10 and 100 to and from 3-digit numbers. Word problems, choose to add or subtract. Children use number facts, partitioning and counting up and counting back.</p> <p>Addition and subtraction Add 3-digit numbers using written expanded and compact column addition. Mental subtraction by counting up to find the difference. Solve word problems involving addition and subtraction.</p> <p>Time, position and direction Read the time on a 12-hour digital clock and to the nearest 5 minutes on an analogue clock, convert time between analogue and digital; begin to calculate time intervals in hours and minutes; understand angles as degrees of turn, right angles as quarter turns, clockwise and anticlockwise; understand that four right angles make a complete turn and two make half a turn.</p> <p>Multiplication and division Mental multiplication and division. Use the 4 times table to learn the 8 times table; recall $\times 2$, 3, 4, 5, 8, 10 tables; use times tables to divide with remainders. Choosing which calculation to use to solve a word problem.</p> <p>Multiplication, division and fractions Mental multiplication and division by 4 by doubling or halving twice; find unit and non-unit fractions of numbers using $\times 2$, 3, 4, 5, 8, 10.</p>	<p>Place value and money Partition and represent 3-digit numbers. Place 3-digit numbers on an empty number line, order, compare and find a number between. Round 3-digit numbers to the nearest 10 and 100. Understand place value in money, writing amounts in pounds and pence. Use place value to add and subtract pounds, 10ps and 1ps.</p> <p>Addition and subtraction Use expanded and compact written addition to add any pair of 3-digit numbers. Use rounding to estimate totals. Find patterns and make generalisations. Use mental subtraction with Frog counting up to subtract 2-digit numbers from 3-digit numbers and to subtract pairs of numbers within the same century.</p> <p>Multiplication and division Double numbers to 50 using partitioning. Halve numbers to 100 using partitioning. Know times tables and division facts ($1\times$, $2\times$, $3\times$, $4\times$, $5\times$, $8\times$, $10\times$). Begin to use the grid method for written multiplication of 2-digit numbers (<30) by 1-digit numbers.</p> <p>Measurement and data Measure capacity in litres and millilitres and convert between whole or half litres and millilitres. Measure length in metres, centimetres and millimetres, including measuring perimeters of 2D shapes. Draw a bar chart where one square represents 2 units. Tell the time to nearest minute, compare time durations and understand am and pm.</p> <p>Addition, subtraction</p>	<p>Multiplication and division Mental multiplication and division. Scale up by multiplying by 4 (double twice) and by 10. Scale down by dividing by 4 (halve twice) and by 10. Divide numbers just beyond the times tables (no remainders). Divide numbers just beyond the times tables (with remainders).</p> <p>Shape, data and measures 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 perpendicular and parallel lines. Count faces, vertices and edges of 3D shapes. Know units of time and the relationship between them.</p> <p>Fractions Understand tenths, and find tenths of amounts. Understand fractions as both numbers and operators. Find unit and non-unit fractions of amounts. Find fractions equivalent to $\frac{1}{2}$ and $\frac{1}{4}$. Add and subtract fractions with the same denominator within one whole.</p> <p>Addition and subtraction Written methods to add three or four 2-digit numbers using compact addition. Estimate answers. Use column addition to add three 3-digit numbers. Use column addition to add two amounts of money. Mental subtraction, counting up (Frog) to find change from £5, £10, £20 and £100.</p> <p>Addition, subtraction, multiplication and division Mental addition and subtraction of three-digit numbers using place value and near multiples. Written</p>

					<p>and money</p> <p>Add three or four 2-digit numbers using expanded column then compact column written addition. Use mental subtraction to count back to find change from £5, £10 and £20. Count up to find a difference between amounts of money (using Frog).</p> <p>Place value and sequences</p> <p>Count in steps of 50, 100, 4 and 8. Work out the rule for a sequence. Count past 1000 and begin to understand place value in 4-digit numbers.</p>	<p>multiplication using the grid method to multiply 2-digit numbers by 1-digit numbers. Mental division of numbers within and just beyond the times tables (with remainders). Solve correspondence problems.</p>
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Y4	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<p>Place value Understand what each digit represents in a 4-digit number. Write place value additions and subtractions. Place 3-digit and 4-digit numbers on a line and compare them.</p> <p>Addition and subtraction Mental addition of pairs of 2-digit numbers or 3-digit numbers and 2-digit numbers using partitioning, place value or counting up. Mental subtraction of 2-digit numbers from numbers less than 200 by counting back or counting up.</p> <p>Addition and subtraction Written addition of 3-digit numbers using compact written addition. Mental subtraction by counting up, using Frog and checking with addition.</p> <p>Shape and data Draw circles with different radii. Describe, name and sort 2D and 3D shapes, including triangles. Use Venn diagrams or Carroll diagrams to sort shapes.</p> <p>Multiplication and division Mental multiplication and division: Double 2-digit and 3-digit numbers using partitioning. Halve 2-digit and 3-digit numbers using partitioning. Know 3, 4, 6, 8 times tables and associated division facts.</p> <p>Place value, addition and subtraction Mental addition and subtraction of 4-digit numbers using place value and partitioning. Add and subtract 1, 10, 100, 1000 to and from 4-digit numbers.</p>	<p>Place value, addition and subtraction Mental addition and subtraction of 3 or 4-digit numbers using place value and near multiples.</p> <p>Subtraction Written subtraction of 3-digit numbers using expanded decomposition. Mental subtraction using counting up. Choose a subtraction calculation strategy.</p> <p>Time and data Tell the time to the nearest minute; use analogue, digital and Roman numeral clocks. Use am and pm times appropriately. Convert units of time and work out time intervals crossing the hour. Collect data and organise into bar charts and pictograms.</p> <p>Multiplication and division Written multiplication using grid method to multiply a 2-digit number by a 1-digit. Written division use chunking on a number line to divide with no remainders.</p> <p>Division and fractions Written division of 2-digit numbers by 1-digit numbers, just above the 10th multiple with remainders using chunking. Count ins 1/4s, 1/3s, 1/8s and 1/10s saying the equivalent fractions, e.g. 1 ½ not 12/4. Find unit fractions and non-unit fraction of amounts.</p>	<p>Place value, fractions and decimals Mental division using place value to divide whole 2-digit numbers to give 1-place decimals. Mental multiplication of 1-place decimals to give whole numbers. Recognise decimal and fraction forms of tenths. Place one-place decimals on a number line. Round tenths to nearest whole; Compare 1-place decimals and write one in between.</p> <p>Addition, subtraction and money Use compact written column addition to add amounts of money. Mental subtraction using counting up to subtract 3 digit numbers. Find change from £5 or £10. Find a difference between prices.</p> <p>Addition and subtraction Written addition of three or four 2-digit numbers using compact column addition. Written subtraction of pairs of 3 digit numbers using expanded column decomposition (two 'carries'). Check subtraction with addition. Choose counting up or decomposition to solve subtractions. Identify and describe patterns.</p> <p>Measurement and data Measure lengths in m, cm and mm. Convert between km, m, cm and mm. Measure weight in kg and g to one decimal place, convert between kg and g, ml and l and make sensible estimations. Measure objects and record in tables. Represent and interpret data in bar graphs.</p> <p>Fractions and decimals Identify equivalent fractions (1/2s, 1/3s, 1/4s, 1/6s, 1/8s, 1/10s, and 1/12s). Reduce fractions their</p>	<p>Addition and subtraction Mental addition and subtraction using place value and number facts: Add or subtract single-digit numbers to and from three and four-digit numbers. Add or subtract multiples of 10, 100 and 1000 to and from four-digit numbers.</p> <p>Addition and subtraction Revise adding three 3-digit numbers, including money, using written compact column addition. Revise using written subtraction by expanded decomposition to subtract 3-digit numbers. Introduce written subtraction by compact decomposition to subtract 3-digit numbers.</p> <p>Time, timetables and co-ordinates Read and tell the time to nearest minute on digital and analogue clocks. Use am, pm, 12-hour clock notation and and 24-hour time. Work out time intervals crossing the hour. Read and work out questions from simple timetables. Read and plot co-ordinates in the first quadrant. Complete polygons by giving missing point. Translate shapes in the first quadrant.</p> <p>Multiplication and division Know multiplication and division facts for the 9 times table. Begin to know multiplication and division facts for the 7 times table. Revise all times tables up to 12 × 12. Find factors of numbers up to 40. Use tables facts and place value to multiply multiples of 10 and 100 by single-digit numbers.</p> <p>Multiplication and division Use partitioning to multiply 3-digit numbers by single-</p>	<p>Place value Use place value to add or subtract to and from 4-digit numbers. Place 4-digit numbers on a line. Round 4-digit numbers to the nearest 10, 100 or 1000. Count on and back in steps of 25 and 1000. Write Roman numerals to 100.</p> <p>Subtraction Use written subtraction, expanded then compact decomposition to subtract pairs of 3 and 4-digit numbers. Use mental subtraction by counting up (Frog) to subtract pairs of 4-digit numbers. Choose a strategy to subtract pairs of 4-digit numbers depending on the numbers involved.</p> <p>Addition and subtraction Written subtraction using decomposition to subtract any pair of four-digit numbers, including those needing 3 moves. Written addition using compact column addition to add any pair of 4-digit numbers. Add and subtract near multiples of 10, 100 and 1000 to or from 3- and 4-digit numbers using place value, Choose mental or written methods to add and subtract. Solve word problems involving addition and subtraction.</p> <p>Area, perimeter and co-ordinates Find area of rectilinear shapes by counting squares. Find perimeter of rectilinear shapes in centimetres by counting. Calculate perimeter in centimetres and metres of rectangles. Use co-ordinates in the first quadrant and join to draw posited polygons.</p> <p>Fractions and decimals Mark numbers with 1 decimal place on an Empty Number Line</p>	<p>Multiplication and division Find factors of numbers less than 50. Use factors to carry out mental multiplication. Find the product of 3 single-digit numbers using commutativity to help. Use times tables and place value for mental division of multiples of 10. Solve scaling problems (by whole number factors). Convert from centimetres to metres. Solve correspondence problems.</p> <p>Shape, symmetry and angles Complete shapes with respect to a line of symmetry. Recognise and compare acute and obtuse angles and angles of 90 degrees. Compare and classify triangles and quadrilaterals, based on properties including types of angles.</p> <p>Time and graphs Read the 24-hour clock converting times to am and pm, both digital and analogue formats. Find time intervals using 24-hour clock. Read, interpret, draw and describe a time graph. Convert between units of time.</p> <p>Fractions, decimals and division Identify equivalent fractions, including decimals. Find non-unit fractions of amounts. Solve fraction word problems. Written division by chunking of two-digit numbers by single-digit numbers, answers less than 30.</p> <p>Addition, subtraction, multiplication and division Use the written ladder method to multiply 3-digit numbers by single-digit numbers, estimating answers first. Choose mental or written methods to solve addition, subtraction, division or multiplication word</p>

			<p>simplest form. Identify equivalent fractions and decimals ($\frac{1}{10}$s and $\frac{1}{2}$s). Add and subtract fractions with the same denominators.</p> <p>Place value, decimals and negative numbers</p> <p>Multiply and divide by 10 and 100 (whole answers or with 1dp). Multiply multiples of 10 and 100 by single-digit numbers. Add and subtract 0.1 and 1 to or from numbers with one decimal place. Use negative numbers in the context of temperature. Place negative numbers on a line. Order positive and negative numbers.</p>	<p>digit numbers, using written multiplication grid or ladder method. Know the 11 and 12 times tables. Use written division chunking method to divide 2-digit numbers by 1-digit numbers, including those divisions which give a remainder (answers between 10 and 30).</p>	<p>and round to the nearest whole. Know what each digit stands for in numbers with 2 decimal places. Multiply and divide by 10 and 100 to give tenths and hundredths. Know equivalent 0.1s and $\frac{1}{10}$s, and 0.01s and $\frac{1}{100}$s. Write place value related additions and subtractions for numbers with 2 decimal places.</p> <p>Fractions, decimals and length</p> <p>Compare and order number with 2 decimal places. Place numbers with 2 decimal places on landmarked lines (marked in 0.1s). Add and subtract 0.1 or 0.01 to or from numbers with 2 decimal places. Count on or back in tenths and hundredths. Add or subtract multiples of 0.1 or 0.01. Solve simple measure problems using place value in lengths in metres with 2 decimal places.</p>	<p>problems and calculations.</p>
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Y5	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<p>Place value and addition Understand place value in 5-digit numbers. Place 5-digit numbers on a line. Order and compare 5-digit numbers. Add and subtract 1, 10, 100, 1000, 10,000. Use written addition to add pairs of 4 digit numbers and pairs of 5-digit numbers. Methods used include, expanded and compact column addition.</p> <p>Decimals, addition and money Understand place value in numbers with two decimal places; divide by 10 and 100 to give answers with two decimal places; multiply numbers with 2 decimals by 10 and by 100; place two-place decimal numbers on a number line; compare and order numbers with two decimal places; add amounts of money using column addition; use using rounding to check answers. Methods used include place value grids, expanded and compact column addition.</p> <p>Subtraction Find change from £20, £50 and £100 using counting up; find a difference between two amounts of money by counting up; use column subtraction to subtract pairs of 4-digit numbers and to subtract 3-digit numbers from 4-digit numbers; choose whether to use counting up or column subtraction to subtract pairs of four-digit numbers. Methods used include expanded decomposition, compact decomposition and Frog / counting up subtraction.</p> <p>Shape: properties of shapes Identify, visualise and describe properties of 3D shapes including pyramids and prisms;</p>	<p>Multiplication and division Use rules of divisibility; find prime numbers less than 50; use a written method to divide numbers above the times tables; round up or down after division according to the context; use multiplication to check division and simplify fractions. Methods used include sorting multiples using Carroll diagrams, written division: chunking</p> <p>Place value, decimals and subtraction Understand place value in numbers with two decimal places; count on and back in steps of 0.1 and 0.01; add and subtract multiples of 0.1 or 0.01 without crossing multiples of 0.1 or 1; find a difference between a number with one or two decimal places and whole number by counting up, e.g. 5 – 3.6 or 5 – 3.65; subtract decimals with one or two decimal places by counting up from the smaller to the larger number e.g. 4.2 – 2.65. Methods used include Frog / counting up subtraction,</p> <p>Measures Convert between grams and kilograms, millilitres and litres (mainly to one decimal place); convert between metres and kilometres; know approximate conversions between common imperial units used in daily life and metric units; begin to draw line graphs and read intermediate points; read timetables using the 24-hour clock; calculate time intervals.</p> <p>Fractions Write improper fractions as mixed numbers and vice versa; compare and order fractions with</p>	<p>Place value Know what each digit represents in six-digit numbers; use place value to add and subtract; compare numbers up to 1 million, use < and > signs; place six-digit numbers on number lines; round six-digit numbers to the nearest 100 or 1000; use negative numbers in context of temperature; calculate rises and falls in temperature. Methods include using landmarked and vertical number lines and calculators to check answers.</p> <p>Addition and subtraction Use place value to add and subtract; add and subtract near multiples of 100 and 1000; use counting up to subtract four digit-numbers from multiples of 1000; subtract pairs of two-digit numbers to one decimal place. Use Frog to find change from £100; use column addition to add amounts of money; use Frog to find the difference between amounts of money. Mental subtraction by counting back.</p> <p>Place value and addition Use place value to add and subtract numbers with 1 or 2 decimal places; multiply and divide by 10, 100 and 1000; round numbers with 2 decimal places to the nearest whole and tenth; use written addition to add pairs of numbers with 1, 2 or 1 and 2 decimal places; use rounding to estimate totals; begin to add three numbers with 2 decimal places. Methods used include expanded and compact column addition to add decimals.</p> <p>Co-ordinates and line graphs Plot points and draw polygons in two</p>	<p>Multiplication and division Use written methods to divide three-digit numbers by single-digit numbers; multiply unit and non-unit fractions by whole numbers, writing any improper fractions as mixed numbers. Methods used include short division and number lines to multiply fractions.</p> <p>Place value and subtraction Understand place value in 6-digit numbers; use place value to add and subtract; place 6-digit numbers on a line; order and compare 6-digit numbers; find a number between two 6-digit numbers; round 6-digit numbers to the nearest 10, 100, 1000, 10,000 or 100,00; use decomposition to subtract pairs of five-digit numbers and four-digit numbers from five digit numbers; solve word problems. Methods used for written subtraction include expanded, compact decomposition and Frog / counting up.</p> <p>Perimeter, area and volume Find the perimeters of rectangles and composite shapes; work out the missing lengths of sides in order to find perimeters; find the area of rectangles including squares; estimate then count to find the area of irregular shapes; calculate the area from scale drawings; estimate and find the volume of shapes by making it with centimetre cubes.</p> <p>Number and place value Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000; place numbers with two decimal places on a line, round to the nearest tenth or</p>	<p>Number and place value Compare and order negative numbers. Count back in steps through zero. Mental addition and subtraction of 1, 10, 100, 1000, 10,000 and 100,000 to and from six-digit numbers using place value. Place six-digit numbers on landmarked lines and empty lines. Round 6-digit numbers to the nearest 1000, 10,000, and 100,000.</p> <p>Place value and decimals Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. Revise 2-place decimals. Introduce 3-place decimals. Mental multiplication and division by 10, 100, 1000.</p> <p>Multiplication, division and percentages Multiply and divide numbers mentally using known facts. Express remainders as fractions. Solve word problems. Understand percentages as parts of 100. Find simple %.</p> <p>Angles and polygons Measure and draw angles using a protractor. Recognise acute, obtuse and reflex angles. Know that angles on a straight line add up to 180° and use this to find missing angles. Know that angles around a point add up to 360° and use this to find missing angles. Draw polygons with given dimensions and angles.</p> <p>Fractions and subtraction Use equivalence to compare and order fractions. Convert improper fractions to mixed numbers. Add and subtract fractions with related denominators. Add and subtract mixed numbers. Use written method column subtraction to</p>	<p>Multiplication Use written methods to multiply: short multiplication to multiply 4-digit numbers by single-digit numbers and grid method to multiply 2-digit numbers and 3-digit numbers by 2-digit numbers. Use long multiplication to multiply 2-digit numbers and 3-digit numbers by 2-digit numbers (one number less than 20).</p> <p>Time and data Read timetables using the 24-hour clock. Calculate time intervals and find a given number of minutes or hours and minutes later. Draw and interpret line graphs and read intermediate points. Solve problems involving rate.</p> <p>Place value and subtraction Understand place value in numbers with three decimal places. Convert between kilograms and grams, litres and millilitres, metres and kilometres. Compare and order numbers with three decimals and place on a line. Use written subtraction, counting up (Frog), to subtract numbers with one or two decimal places including money. Solve word problems. Check subtraction by using addition.</p> <p>Multiplication and fractions Use written long multiplication to multiply pairs of 2-digit numbers together where one number is less than 30 and to multiply a 3-digit number by a 2-digit number less than 30. Use rounding to estimate products. Multiply fractions by whole numbers, simplifying answers. Multiply mixed numbers by whole numbers.</p> <p>Calculation Use written column addition to add 4- and</p>

	<p>use these properties to sort 3D shapes; describe properties of 2D shapes. Recognise and describe properties of polygons; classify quadrilaterals. Sort shapes using Venn diagrams, shape investigations and use technical vocabulary associated with 3D shapes.</p> <p>Multiplication, division and fractions</p> <p>Use knowledge of times tables facts to help find common multiples, sort using Venn diagrams; find factor of two-digit numbers; divide mentally, deciding whether to round up or down depending on the context; find equivalent fractions; compare fractions with related denominators; simplify fractions using factors. Solve word problems involving division</p> <p>Place value and multiplication</p> <p>Place 4-digit numbers on a line and round to the nearest 10, 100 or 1000; place 5-digit numbers on a line and round to the nearest 10, 100, 1000 or 10,000; revise using grid multiplication to multiply 3-digit numbers by single-digit numbers; use short multiplication to multiply 3-digit numbers by single-digit numbers; use short multiplication to multiply 4-digit numbers by single-digit numbers. Methods used include landmarked number lines, written multiplication using grid method and short multiplication.</p>	<p>related denominators; add and subtract fractions with related denominators; find fractions of amounts. Methods used include written division; chunking.</p> <p>Addition, subtraction and multiplication</p> <p>Use place value to add and subtract; add and subtract near multiples; add pairs of five-digit numbers (five-digit answers); use rounding to check; subtract pairs of five-digit numbers; use short multiplication to multiply three-digit numbers by single-digit numbers including amounts of money, e.g. $3 \times £4.56$. Methods used include expanded and compact decomposition to subtract, compact column addition, short multiplication and grid method to multiply.</p>	<p>quadrants; work out new co-ordinates after a translation; reflect a shape and write the new co-ordinates; draw a line graph and read intermediate points. Draw a conversion graph of imperial to metric units and use it to read off equivalent measures. Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.</p> <p>Multiplication and division</p> <p>Find lowest common multiples and highest common factors; use mental strategies to multiply and divide by 5, 20, 6, 4 and 8. Use short multiplication to multiply 4-digit numbers by 1-digit numbers. Use rounding to approximate products. Use factors and multiples in mental multiplication and understand that multiplication is commutative. Methods used include grid method and short multiplication.</p> <p>Fractions and decimals</p> <p>Compare fractions with related denominators using equivalence; find unit and non-unit fractions of amounts; find fractions, multiply and divide to solve word problems. Know decimal equivalents for halves, quarters, fifths, tenths and hundredths. Methods used include chunking to divide decimals.</p>	<p>whole; use counting up to subtract pairs of numbers with the same number of decimal places, then different numbers of places; use counting up to find change and differences in prices; solve subtraction word problems. Methods used include Frog/counting up subtraction and using numberlines.</p> <p>Addition and subtraction</p> <p>Use column addition to add and subtract four-digit and five-digit numbers; add and subtract numbers mentally; use short multiplication to multiply four-digit numbers by single-digit numbers; use short division to divide four-digit numbers by single-digit numbers. Methods used include expanded and compact column addition, expanded decomposition, adding near multiples, short multiplication and division and grid method for multiplication.</p>	<p>subtract pairs of 5-digit numbers. Choose when to use counting up (Frog) or column subtraction.</p> <p>Multiplication and division</p> <p>Find common multiples and common factors. Solve problems requiring scaling by simple fractions. Recognise and use square numbers and cube numbers. Use written short division to divide 4-digit numbers by single-digit numbers, including those which leave a remainder. Use short division to divide 4-digit numbers by single-digit numbers, expressing the remainders as fraction.</p>	<p>5-digit whole numbers, decimals and money. Use written column subtraction of whole numbers and mental strategy of counting up (Frog) to subtract decimals including money. Choose a method to subtract. Use short division to divide 4-digit numbers, expressing remainders as fractions. Solve single and multi-step word problems, working out which calculation(s) are necessary. Understand and use equivalence.</p>
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Y6	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	<p>Place value and written addition Understand place value in 6-digit numbers. Place 6-digit numbers on a line. Compare 6-digit numbers. Add and subtract 1s, 10s, 100s, 1000s, 10,000s and 100,000s. Use compact column addition to add any pair of 5 digit numbers.</p> <p>Decimals and written addition Understand place value in numbers with 3 decimal places, compare, place on lines and begin to round to the nearest whole, 0.1 or 0.01. Multiply and divide by 10, 100 and 1000 to give answers with 0, 1, 2 or 3 decimal places. Solve problems involving number. Use compact column addition to add 2 or 3 amounts of money or numbers with 2 decimal places in a measures context, e.g. metres, rounding to approximate.</p> <p>Subtraction Add several prices, then find change from £50 and £100 and a difference between two amounts of money using counting up subtraction (Frog). Use compact decomposition to subtract pairs of 5-digit numbers and to subtract 3-digit and 4-digit numbers from 5-digit numbers. Choose whether to use counting up (Frog) or decomposition to subtract pairs of 5-digit numbers.</p> <p>Shape and angles Name parts of circles (radius, diameter, circumference) and know that the diameter is twice the radius. Classify and sort quadrilaterals. Find unknown angles in any triangles, quadrilaterals, and regular polygons. Find unknown angles around a point, on a straight line or</p>	<p>Fractions and division Recognise fraction and decimal equivalents. Use short division to divide 3-digit and 4-digit numbers by 1-digit numbers and by 11 and 12; round up or down. Write answers with remainders as fractions, e.g. $23\frac{3}{4}$, simplify fractions and write as decimals, e.g. 23.75.</p> <p>Place value, decimals and subtraction Add/subtract multiples of 0.01 to/from numbers with two decimal places, crossing multiples of 0.1 and 1. Subtract numbers with one or two decimal places by counting up from the smaller to the larger number (Frog), e.g. $3.76 - 1.8$ or $13.4 - 2.76$. Understand place value in numbers with three decimal places. Count on and back in steps of 0.001 and 0.01 and add and subtract multiples of 0.1, 0.01 or 0.001.</p> <p>Measures including time Convert between grams and kilograms, millilitres and litres (up to 3 decimal places). Convert between metres and kilometres. Know approximate conversions between common imperial units used in daily life and metric units. Draw line graphs and read intermediate points. Read timetables using the 24-hour clock and calculate time intervals and add lengths of times.</p> <p>3D shape and fractions Identify, describe and build 3D shapes using nets. Turn improper fractions into mixed numbers and vice versa. Compare, order, add and subtract fractions with unrelated denominators.</p> <p>Written multiplication, mixed</p>	<p>Number, place value and negative numbers Know what each digit represents in 7-digit numbers. Use place value to add and subtract. Compare numbers up to 10 million. Place 7-digit numbers on number lines and round to the nearest 10,000, 100,000 or 1,000,000. Use negative numbers in context of temperature, calculate rises and falls in temperature. Calculate intervals across zero.</p> <p>Mental addition and subtraction, order of operations Add and subtract near multiples of integers including decimals (e.g. $+/- 0.299$, 3.02). Use knowledge of the order of operations and brackets to carry out calculations. Solve addition and subtraction multi-step word problems, including finding change.</p> <p>Place value, decimals and addition of decimals Use place value to add and subtract numbers with 3 decimal places. Multiply and divide by 10, 100 and 1000. Round numbers with 3 decimal places to the nearest whole, tenth and hundredth. Use written addition to add numbers with 3 decimal places. Use rounding to estimate totals and round answers to a given level of accuracy.</p> <p>Co-ordinates, statistics and measures Plot points and draw polygons in all four quadrants. Work out new co-ordinates after a translation or reflection. Construct and interpret pie charts. Draw a line graph and read intermediate points. Understand and use approximate equivalences between metric units and</p>	<p>Algebra Understand and use simple formulae. Express missing number problems algebraically. Find pairs of numbers that satisfy an equation with two unknowns. Generate and describe linear number sequences.</p> <p>Multiplication and division of fractions and written division Multiply pairs of fractions together. Divide fractions by whole numbers. Use long division to divide 3-digit numbers by 2-digit numbers, dividing any remainders to give fractions, and decimals where equivalents are known.</p> <p>Area, perimeter and volume Find the area of triangles and parallelograms, beginning to use formulae. Find areas and perimeters of rectilinear shapes. Recognise that shapes with the same areas can have different perimeters and vice versa. Find volumes of cubes and cuboids.</p> <p>Shape, ratio and percentages Solve problems involving similar shapes where the scale factor is known or can be found. Find areas of triangles, rectangles and parallelograms. Describe ratios between unequal quantities, e.g. paint, solve ratio problems, e.g. in context of recipes. Solve problems involving unequal quantities. Use fractions and percentages to describe proportions.</p> <p>Written multiplication and division Use short multiplication to multiply 4-digit numbers by single-digit numbers. Use short division to divide 4-digit numbers</p>	Review curriculum covered in Autumn and Spring Terms	Review curriculum covered in Autumn and Spring Terms

	<p>vertically opposite.</p> <p>Multiplication, division and fractions</p> <p>Find common multiples and factors. Find numbers that have a pair of prime factors. Find equivalent fractions. Simplify fractions using multiples and factors. Compare and order fractions with unrelated denominators. Find non-unit fractions of numbers using short division and mental multiplication.</p> <p>Number and written multiplication</p> <p>Place 5-digit numbers on a line and round to the nearest 10, 100 or 1000. Place 6-digit numbers on a line and round to the nearest 10, 100, 1000, 10,000 or 100,000. Use short multiplication to multiply 4-digit numbers and 4-digit amounts of money by single-digit numbers. Use rounding to approximate.</p>	<p>calculations and word problems</p> <p>Use grid multiplication to multiply 3-digit numbers by 2-digit numbers. Use long multiplication to multiply 3-digit numbers by numbers between 10 and 20, then between 20 and 30. Solve a mix of +, −, × and ÷ mental and written calculations. Choose which operations are necessary to solve single-step and multi-step word problems.</p>	<p>common imperial units such as inches, pounds and pints.</p> <p>Mental multiplication and division; written multiplication</p> <p>Solve problems involving rate. Solve problems by scaling up or down. Multiply and divide numbers with up to 2dp, e.g. 0.4×6, $3.5 \div 7$, 5×0.03, $0.15 \div 3$. Use long multiplication to multiply 3-digit then 4-digit numbers by numbers between 10 and 35. Use rounding to approximate.</p> <p>Fractions, percentages and statistics</p> <p>Compare fractions with unrelated denominators using equivalence. Know decimal equivalents for halves, quarters, fifths, eighths, tenths and hundredths. Recognise equivalent fractions, decimals and percentages. Find percentages of amounts. Use mental division strategies to find non-unit fractions of amounts. Calculate and interpret the mean as an average.</p>	<p>by single-digit numbers, and 11 and 12, divide any remainders to give fractions/decimals/round up or down. Use long multiplication to multiply 3-digit numbers, then 4-digit numbers by numbers between 10 and 35. Use rounding to approximate. Use long division to divide 3-digit numbers, then 4-digit numbers by 2-digit numbers.</p>		
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