



Year 1

Count to & across 100, forwards & backwards from any number.

Read & write numbers to 20 in digits & words.

Read & write numbers to 100 in digits.

Say 1 more/1 less to 100.

Count in multiples of 1, 2, 5 & 10

Recall all multiplication and division facts for 2,5,10

Know bonds to 10 by heart.

Use bonds & subtraction facts to 20.

Add & subtract: 1-digit & 2-digit numbers to 20, including zero.

Add any three 1-digit numbers with a total up to 20.

Solve simple multiplication & division with apparatus & arrays.

Recognise half and quarter of object, shape or quantity.

Sequence events in order.

Use language of day, week, month and year.

Tell time to hour & half past.

Measure and begin to record length, mass, volume and time

Recognise and know the value of all coins and notes



| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| <p>Consolidation of Reception</p> <p>Cardinality and Counting</p> <p>Comparison</p> <p>Composition</p> <p>Pattern</p> <p>Shape and Space</p> <p>Measures</p> <p>Composition of numbers 20-100:</p> <p>Understand there is a set counting sequence for counting to 100 and beyond.</p> <p>Know objects can be counted efficiently by making groups of ten and the digits in the numbers 20-99 tell us about their value.</p> <p>- Know each number on the 0-100 number line has a unique position.</p> | <p>Comparison of Quantities and part-whole relationships:</p> <p>Explain that items can be compared using length/height, weight/mass and volume/capacity.</p> <p>Count and compare sets of objects.</p> <p>Use equality and inequality symbols to compare sets of objects and expressions.</p> <p>Explain what a whole is and know it can be split into parts.</p> <p>Explain that a whole can represent a group of objects and identify part of a whole group.</p> <p>Use part-whole models.</p> <p>Numbers 0-5</p> <p>Know that numbers can represent how many objects there are in a set.</p> | <p>Recognise, compose, decompose and manipulate 2D and 3D shapes:</p> <p>Investigate ways that four cubes can be composed into different 3D models.</p> <p>Explore, discuss and compare 2D and 3D shapes.</p> <p>Identify 2D shapes within 3D shapes.</p> <p>Explore, discuss and identify circles and shapes that are not circles, triangles and shapes that are not triangles and rectangles from shape cut-outs.</p> <p>Numbers 0-10:</p> <p>Count a set of objects and match the spoken number to the written numeral and number name.</p> | <p>Additive Structures:</p> <p>Combine two or more parts to make a whole.</p> <p>Explain addends can be represented in any order – commutative law</p> <p>Explain that the = sign can be used to show that the whole and the sum of the parts are equal.</p> <p>Add parts to find the value of the whole and write the equation.</p> <p>Find the missing addend in an equation.</p> <p>Make addition and subtraction stories and write equations to match.</p> <p>Represent 'first, then, now' stories with addition and subtraction equation.</p> <p>Work out the missing part of an addition or subtraction story and</p> | <p>Explain that the digits in the numbers 11 to 19 express quantity</p> <p>Explain that the digits in the numbers 11 to 19 express position on a number line</p> <p>Identify the quantity shown in a representation of numbers 11 to 19</p> <p>Use knowledge of '10 and a bit' to solve problems</p> <p>Use knowledge of '10 and a bit' to solve problems</p> <p>Explore odd and even numbers within 20</p> <p>Double the numbers 6 to 9 and halve the result, explaining what doubling and halving is</p> <p>Use knowledge of addition facts within 10 to add within 20</p> | <p>Describe position, direction and movement, including whole, half, quarter and three-quarter turns.</p> <p>Use the language of position, direction and motion, including left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside.</p> <p>Make whole, half, quarter and three-quarter turns in both directions and connect turning clockwise with movement on a clock face.</p> <p>Sequence events in chronological order using language [before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]</p> |



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| <p>- Compare numbers within 100.</p> <p>- Partition two digit numbers into tens parts and ones parts.</p> <p>Use knowledge of tens and ones structure of two-digit numbers to support additive calculation.</p> | <p>Know ordinal number show a position and not a set of objects.</p> <p>Partition numbers 1-5 in different ways systematically.</p> <p>Show one more and one less than a number.</p> <p>Use bar models to represent a whole partitioned into two parts.</p> <p>Recognise, Compose, Decompose and Manipulate 2D and 3D Shapes:</p> <p>Explore block patterns.</p> <p>Explore, discuss and compare 2D and 3D shapes in depth.</p> | <p>Represent the numbers 6 to 10 using a five and a bit structure.</p> <p>Identify the whole and parts of the numbers 6 to 10 using the five and a bit structure.</p> <p>Explore the numbers 6 to 10 using the part whole model and the five and a bit structure.</p> <p>Explain where 6, 7, 8 and 9 lie on a number line.</p> <p>Explain what odd and even numbers are, the difference between them and how even and odd numbers can be partitioned.</p> <p>Partition numbers 6 to 10 in different and then systematic ways.</p> <p>Identify a missing part when a whole is partitioned into two parts.</p> | <p>equation if the other two parts are known.</p> <p>Explain that addition and subtraction are inverse operations.</p> <p>Use additive structures to think about addition and subtraction equations in different ways.</p> <p>Addition and Subtraction Facts within 10:</p> <p>Explain that addition is commutative.</p> <p>Find pairs of numbers to 10</p> <p>Add and subtract 1 from any number.</p> <p>Explain what the difference is between consecutive numbers.</p> <p>Explain what happens when 2 is added to or subtracted from odd and even numbers.</p> | <p>Use knowledge of subtraction facts within 10 to subtract within 20</p> <p>Use knowledge of addition and subtraction facts within 10 to add and subtract within 20</p> <p>Measure one object with different non-standard measures and record outcomes</p> <p>Measure items using individual cm cubes</p> <p>Measure length from zero cm using a ruler</p> <p>Estimate length in cm</p> <p>Estimate length, measure length and record these values in a table.</p> <p>Count efficiently in groups of two, ten, five.</p> <p>Explain the value of a 1p coin in pence</p> | <p>Recognise and use language relating to dates, including days of the week, weeks, months and years</p> <p>Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times</p> |
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| | | | <p>Explain what the difference is between consecutive odd and even numbers.</p> <p>Explain what happens when zero is added to or subtracted from a number.</p> <p>Explain what happens when a number is added to or subtracted from itself.</p> <p>Double numbers and explain what doubling means and halve numbers and explain what halving means.</p> <p>Use knowledge of doubles and halves to calculate near doubles and halves.</p> <p>Represent different types of stories with subtraction calculations.</p> <p>Use knowledge and strategies to add 5 and 3 and 6 and 3.</p> | <p>Recognise and explain the value of 2p, 5p and 10p coins</p> <p>Explain that a single coin can be worth several pennies</p> <p>Use knowledge of the value of coins to solve problems</p> <p>Calculate the total value of the coins in a set of 2p 5p 10p coins and compare the sets</p> <p>Relate what they have learnt to a real-life context</p> <p>Work out how many coins are needed to make a value of 10p, 20p</p> <p>Use knowledge of the value of coins to solve problems</p> | |
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Ongoing

Problem solving and reasoning :

Solve problems using number facts and place value

Solve problems with addition and subtraction

Arithmetic – using all four operations

Place value to be included throughout all other topics

Estimation and checking through use of inverse operation



Year 2

Count in steps of 2s, 3s and 5s, and steps of 10

Recognise place value in two-digit numbers

Compare and order numbers up to 100 using $<$, $>$ and $=$

Recall and use number addition/subtraction facts to 20, and derive related facts

Add and subtract mentally and with objects one- and two-digit numbers

Understand and use the inverse relationship between addition and subtraction

Know $2\times$, $5\times$ and $10\times$ tables, including recognising odd & even numbers

Calculate mathematical statements using \times and \div symbols

Recognise, find, name and write $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ of size, shape or quantity

Write simple fraction facts, e.g. $\frac{1}{2}$ of 6 = 3

Combine amounts of money to make a value, including using \pounds and p symbols

Tell the time to the nearest 5 minutes, including drawing clocks

Describe properties of 2-D shapes, including number of sides and symmetry

Describe properties of 3-D shapes, including number of edges, vertices and faces

Interpret and construct simple tables, tally charts and pictograms



| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| <p>Explain that one ten is equivalent to ten ones</p> <p>Represent multiples of ten using their numerals and names</p> <p>Represent multiples of ten in an expression or an equation</p> <p>Estimate the position of multiples of ten on a 0-100 number line</p> <p>Explain what happens when you add and subtract ten to a multiple of ten</p> <p>Use knowledge of facts and unitising to add and subtract multiples of ten</p> <p>Add and subtract multiples of ten</p> <p>Explore the counting sequence for counting to 100 and beyond</p> | <p>Demonstrate fluency of addition and subtraction within ten</p> <p>Practise addition and subtraction strategies</p> <p>Add and subtract one to and from a two-digit number</p> <p>Add and subtract one to and from a two-digit number that crosses a tens boundary</p> <p>Add and subtract one from any two-digit number</p> <p>Use number facts to add a single-digit number to a two-digit number</p> <p>Use number facts to subtract a single-digit number from a two-digit number</p> <p>Use a part-part-whole model to represent addition and subtraction</p> | <p>Explain that objects can be grouped in different ways</p> <p>Describe how objects have been grouped</p> <p>Represent equal groups as repeated addition</p> <p>Represent equal groups as multiplication</p> <p>Identify and explain each part of a multiplication equation</p> <p>Use knowledge of multiplication to calculate the product</p> <p>Use knowledge of times table to solve problems</p> <p>Explain the relationship between adjacent multiples of two</p> <p>Explain that factor pairs can be written in any order</p> | <p>Learn that a polygon is a 2D shape with straight sides that meet at vertices</p> <p>Describe polygons and find different ways to sort them</p> <p>Sort and name polygons according to the number of sides and vertices</p> <p>Discuss, and compare by direct comparison, the shape and size of polygons</p> <p>Discuss, and compare by direct comparison, the vertices of polygons</p> <p>Investigate how polygons can be joined and folded to form 3-dimensional shapes</p> <p>Describe 3-dimensional shapes and find different ways to sort them</p> <p>Discuss, and compare by direct comparison, the</p> | <p>Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</p> <p>Find different combinations of coins that equal the same amounts of money</p> <p>Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.</p> <p>Develop fluency in counting and recognising coins. They read and say amounts of money confidently and use the symbols £ and p accurately, recording pounds and pence separately.</p> <p>Identify whether something has or has not been split into equal parts</p> | <p>Identify the patterns and relationships between the 5 and 10 times tables</p> <p>Explain the patterns and relationships between the 5 and 10 times tables</p> <p>Use knowledge of the 5 and 10 times tables to solve problems</p> <p>Explain how times table facts can help to find the quotient (10, 5, 2 times table)</p> <p>Explain how a division equation with 2 as a divisor is related to halving</p> <p>Explain each part of a division equation and know how they can be interchanged</p> <p>Use knowledge of divisibility rules when the divisor is 2,5,10 to solve problems</p> |



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| <p>Count a large group of objects by counting groups of tens and the extra ones</p> <p>Count a large group of objects by using knowledge of unitising by counting tens and ones</p> <p>Represent a number from 20-99 in different ways</p> <p>Explain and mark the position of numbers 20-99 on a number line</p> <p>Explain that numbers 20-99 can be represented as a length</p> <p>Compare two, two-digit numbers</p> <p>Partition a two-digit number into tens and ones</p> <p>Add two, two-digit numbers by partitioning into tens and ones</p> <p>Add three addends</p> <p>Use a 'First... Then... Now' story to add 3 addends</p> | <p>Use number bonds to ten to add a single-digit number to a two-digit number</p> <p>Use number bonds to ten to subtract a single-digit number from a two-digit number</p> <p>Use knowledge of 'make ten' to add a one-digit number to a two-digit number</p> <p>Use knowledge of 'make ten' to subtract a multiple of ten or a single-digit from a two-digit number</p> <p>Solve problems using knowledge of addition and subtraction</p> <p>Find ten more or ten less than a two-digit number</p> <p>Explain the patterns when adding and subtracting ten</p> <p>Use knowledge of adding and subtracting ten to solve problems</p> | <p>Use knowledge of ten and fives times table to solve problems</p> <p>Explain what each factor represents in a multiplication story</p> <p>Double two digit numbers</p> <p>Explain how halving and doubling are related</p> <p>Halve two digit numbers</p> <p>Explain that objects can be grouped equally</p> <p>Identify and explain when objects cannot be grouped equally</p> <p>Explain the relationship between division expressions and division stories</p> <p>Calculate the number of equal groups in a division story</p> <p>Use knowledge of skip counting and division to</p> | <p>shape and size of 3-dimensional shapes</p> <p>Explain strategies used to add</p> <p>Add a two-digit number to a two-digit number</p> <p>Add a two-digit number to a two-digit number when not crossing ten</p> <p>Add a two-digit number to a two-digit number when crossing ten</p> <p>Explain strategies used to subtract</p> <p>Subtract a two-digit number from a two-digit number</p> <p>Partition the subtrahend to help with subtraction</p> <p>Subtract a two-digit number from a two-digit number when not crossing ten</p> | <p>Name the fraction 'one-half' in relation to a fraction of a length, shape or set of objects</p> <p>Name the fraction 'one-quarter' in relation to a fraction of a length, shape or set of objects</p> <p>Name the fraction 'one-third' in relation to a fraction of a length, shape or set of objects</p> <p>Read and write the fraction notation $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{1}{4}$ and relate this to a fraction of a length, shape or set of objects</p> <p>Find half of numbers</p> <p>Find $\frac{1}{3}$ or $\frac{1}{4}$ of a number</p> <p>Find $\frac{1}{4}$ and $\frac{3}{4}$ of an object, shape, set of objects, length or quantity</p> <p>Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$</p> <p>Compare and sequence intervals of time</p> | <p>Explain how a dividend of zero affects the quotient</p> <p>Explain how the quotient is affected when the divisor is equal to the dividend</p> <p>Explain how a divisor of one affects the quotient</p> <p>Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ($^{\circ}$C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels</p> <p>Compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$.</p> <p>Use standard units of measurement with increasing accuracy, using</p> |
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| <p>Explain that addends can be added in any order</p> <p>Add 3 addends efficiently</p> <p>Add 3 addends efficiently by finding two addends that total 10</p> <p>Add two numbers that bridge through 10</p> <p>Subtract two numbers that bridge through 10</p> <p>Compare numbers and describe how many more or less there are in each set</p> <p>Calculate the difference</p> <p>Use knowledge of subtraction to solve problems in a range of contexts</p> <p>Explain what the difference is between consecutive numbers</p> <p>Calculate difference when information is presented in a pictogram</p> | <p>Use number facts to add a multiple of ten to a two-digit number</p> <p>Use number facts to subtract a multiple of ten from a two-digit number</p> <p>Partition a two-digit number into parts in different ways (two and three parts)</p> <p>Use knowledge of adding and subtracting multiples of ten to solve problems</p> | <p>Solve problems relating to measure</p> <p>Skip count using the divisor to find the quotient</p> <p>Use knowledge of division to solve problems</p> <p>Explain objects can be shared equally</p> <p>Use skip counting to solve a sharing problem</p> <p>Skip count using the divisor to find the quotient</p> | <p>Subtract a two-digit number from a two-digit number when crossing ten</p> <p>Subtract efficiently using knowledge of two-digit numbers</p> | <p>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</p> <p>Know the number of minutes in an hour and the number of hours in a day.</p> <p>Use standard units of measurement</p> <p>Develop fluency in telling the time on analogue clocks and recording it.</p> <p>Order and arrange combinations of mathematical objects in patterns and sequences</p> <p>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</p> | <p>their knowledge of the number system.</p> <p>Use appropriate language and record using standard abbreviations.</p> <p>Compare measures including simple multiples such as 'half as high'; 'twice as wide'.</p> |
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| <p>Calculate difference when information is presented in a bar chart</p> | | | | <p>(clockwise and anti-clockwise).</p> <p>Work with patterns of shapes, including those in different orientations.</p> <p>Use the concept and language of angles to describe 'turn' by applying rotations, including in practical contexts (for example, pupils themselves moving in turns, giving instructions to other pupils to do so, and programming robots using instructions given in right angles).</p> | |
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Year 3

Count in multiples of 4, 8, 50 and 100

Compare and order numbers up to 1000

Add and subtract numbers mentally, including round numbers to HTU

Add and subtract using standard column method

Estimate answers to calculations and use the inverse to check answers

Know 3×, 4× and 8× tables

Count up and down in tenths

Understand that tenths are objectives or quantities divided into ten equal parts

Compare and order simple fractions

Recognise and show equivalent fractions

Find and write fractions of a set of objects

Add and subtract fractions with common denominators (less than one)

Measure, compare and calculate measures using standard units

Measure the perimeter of simple 2-D shapes

Add and subtract money, including giving change

Tell and write the time from an analogue clock, including using Roman numerals

Estimate and read time to the nearest minute

Identify horizontal, vertical, parallel and perpendicular lines

Identify whether angles are greater or less than a right angle

Interpret and present data using bar charts, pictograms and tables



| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| <p>Explain 100 is composed of ten tens and one hundred ones</p> <p>Explain that 100 is composed of 50s 25s and 20</p> <p>Use known facts to find multiples of ten that compose 100</p> <p>Use known facts to find a two-digit number and a one- or two-digit number that compose 100</p> <p>Use known facts to find complements to 100 accurately and efficiently</p> <p>Represent a three-digit number which is a multiple of ten using their numerals and names</p> <p>Use place value knowledge to write addition and subtraction equations</p> | <p>Use knowledge of place value to represent a three-digit number in different ways</p> <p>Represent a three-digit number up to 1000 in different ways</p> <p>Use knowledge of the additive relationship to solve problems</p> <p>Count in hundreds and tens on a number line</p> <p>Identify the previous, next and nearest multiple of 100 on a number line for a three-digit multiples of ten</p> <p>Position three-digit numbers on number lines</p> <p>Estimate the position of three-digit numbers on unmarked number lines</p> <p>Compare one-, two- and three-digit numbers</p> | <p>Rotate two lines around a fixed point to make different sized angles</p> <p>Draw triangles and quadrilaterals and identify vertices</p> <p>Know a right angle is a 'square corner' and identify them in the environment</p> <p>Know a rectangle is a 4-sided polygon with four right angles</p> <p>Know a square is a rectangle in which the four sides are equal length</p> <p>Join four right angles at a point using different right-angled polygons</p> <p>Investigate and draw other polygons with right angles</p> <p>Add two 3-digit numbers using partitioning</p> | <p>Identify the addends and the sum in column addition</p> <p>Use their knowledge of place value to correctly lay out column addition</p> <p>Add a pair of 2-digit numbers using column addition</p> <p>Add using column addition</p> <p>Use their knowledge of column addition to solve problems</p> <p>Add a pair of 2-digit numbers using column addition with regrouping in the ones column</p> <p>Add a pair of 2-digit numbers using column addition with regrouping in the tens column</p> <p>Add using column addition with regrouping</p> | <p>Identify a whole and the parts that make it up</p> <p>Explain why a part can only be defined when in relation to a whole</p> <p>Identify the number of equal or unequal parts in a whole</p> <p>Identify equal parts when they do not look the same</p> <p>Explain the size of the part in relation to the whole</p> <p>Construct a whole when given a part and the number of parts</p> <p>Identify how many equal parts a whole has been divided into</p> <p>Use fraction notation to describe an equal part of the whole</p> <p>Represent a unit fractions in different ways</p> | <p>Explain that non-unit fractions are composed of more than one unit fraction</p> <p>Identify non-unit fractions</p> <p>Identify the number of equal or unequal parts in a whole</p> <p>Use knowledge of non-unit fractions to solve problems</p> <p>Use knowledge of unit fractions to find one whole</p> <p>Place fractions between 0 and 1 on a numberline</p> <p>Use repeated addition of a unit fraction to form a non-unit fraction</p> <p>Use repeated addition of a unit fraction to form 1</p> |



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| <p>Bridge 100 by adding or subtracting in multiples of ten</p> <p>Use knowledge of addition and subtraction of multiples of ten bridging the hundreds boundary to solve problems</p> <p>Count across and on from 100</p> <p>Represent a three-digit number up to 199 in different ways</p> <p>Bridge 100 by adding or subtracting a single-digit number</p> <p>Find ten more or ten less than a given number</p> <p>Cross the hundreds boundary when adding and subtracting any two-digit multiple of ten</p> <p>Become familiar with a metre ruler (marked and</p> | <p>Compare two three-digit numbers</p> <p>Order sets of three-digit numbers</p> <p>Use known facts to add or subtract multiples of 100 within 1000</p> <p>Write a three-digit multiple of 10 as a multiplication equation</p> <p>Partition three-digit numbers in different ways</p> <p>Use known facts to solve problems involving partitioning numbers</p> <p>Use known facts to add or subtract to/from multiples of 100 in tens</p> <p>Use known facts to add or subtract to/from multiples of 100 in ones</p> <p>Add/subtract multiples of ten bridging 100</p> | <p>Add two 3-digit numbers using adjusting</p> <p>Add a pair of 2- or 3-digit numbers using redistribution</p> <p>Subtract a pair of 2- or 3-digit numbers, bridging a multiple of 10, using partitioning</p> <p>Subtract a pair of 2-digit numbers, crossing a ten or hundreds boundary, by finding the difference between them</p> <p>Subtract a pair of three-digit multiples of 10 within 1000 by finding the difference between them</p> <p>Evaluate the efficiency of strategies for subtracting from a 3-digit number</p> <p>Explain why the order of addition and subtraction steps in a multi-step problem can be chosen</p> | <p>Use known facts and strategies to accurately and efficiently calculate and check column addition</p> <p>Use their knowledge of column addition to solve problems</p> <p>Represent counting in fours as the 4 times table</p> <p>Use knowledge of the 4 times table to solve problems</p> <p>Explain the relationship between adjacent multiples of four</p> <p>Explain the relationship between multiples of 2 and multiples of 4</p> <p>Use knowledge of the relationships between the 2 and 4 times tables to solve problems</p> <p>Represent counting in eights as the 8 times table</p> | <p>Identify parts and wholes in different contexts (i)</p> <p>Identify parts and wholes in different contexts (ii)</p> <p>Identify equal parts when they do not look the same (ii)</p> <p>Compare and order unit fractions by looking at the denominator</p> <p>Identify when unit fractions cannot be compared</p> <p>Construct a whole when given one part and the fraction that it represents</p> <p>Use knowledge of the relationship between parts and wholes in unit fractions to solve problems</p> <p>Identify the whole, the number of equal parts and the size of each part as a unit fraction</p> | <p>Compare using knowledge of non-unit fractions equivalent to one</p> <p>Compare non-unit fractions with the same denominator</p> <p>Compare unit fractions</p> <p>Compare fractions with the same numerator</p> <p>Add up fractions with the same denominator</p> <p>Add on fractions with the same denominator</p> <p>Add fractions with the same denominator using a generalised rule</p> <p>Subtract fractions with the same denominator</p> <p>Identify the whole, the number of equal parts and the size of each part as a unit fraction</p> <p>Explain that addition and subtraction of fractions are inverse operations</p> |
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| <p>unmarked intervals, 1 x 1m, 10 x 10cm, 100 x 1cm)</p> <p>Measure length and height from zero using whole metres and cm</p> <p>Measure length and height from zero using cm</p> <p>Convert between m and cm (include whole m to cm, cm to whole m and cm and vice versa)</p> <p>Become familiar with a ruler in relation to cm and mm (marked and unmarked intervals, knowing 1cm = 10mm)</p> <p>Measure length from zero using mm / whole cm and mm</p> <p>Convert between cm and mm (include whole cm to mm, mm to whole cm and mm and vice versa)</p> <p>Estimate a length/height, measure a length/height and record in a table</p> | <p>Add/subtract to/from a three-digit number in ones bridging 100</p> <p>Find 10 more or less across any hundreds boundary</p> <p>Use knowledge of adding or subtracting to/from three-digit numbers to solve problems</p> <p>Count forwards and backwards in multiples of 2, 20, 5, 50 and 25</p> <p>Use knowledge of counting in multiples of 2, 20, 5, 50 and 25 to solve problems</p> <p>Become familiar with different weighing scales up to 1kg (intervals of 100g, 200g, 250g and 500g)</p> <p>Become familiar with the tools to measure volume and capacity up to 1 litre (intervals of 100ml, 200ml, 250ml and 500ml)</p> | <p>Accurately and efficiently solve multi-step addition and subtraction problems</p> <p>Understand and can explain that both addition and subtraction equations can be used to describe the same additive relationship (2-digit numbers)</p> <p>Understand and can explain that both addition and subtraction equations can be used to describe the same additive relationship (3-digit numbers)</p> <p>Use knowledge of the additive relationship to rearrange equations</p> <p>Use knowledge of the additive relationship to identify what is known and what is unknown in an equation</p> <p>Use knowledge of the additive relationship to</p> | <p>Explain the relationship between adjacent multiples of eight</p> <p>Explain the relationship between multiples of 4 and multiples of 8</p> <p>Use knowledge of the relationships between the 4 and 8 times tables to solve problems</p> <p>Explain the relationship between multiples of 2, 4 and multiples of 8</p> <p>Use knowledge of the relationships between the 2, 4 and 8 times tables to solve problems</p> <p>Use knowledge of the divisibility rules for divisors of 2 and 4 to solve problems</p> <p>Use knowledge of the divisibility rules for divisors of 8 to solve problems</p> | <p>Quantify the number of items in each part and connect to the unit fraction operator</p> <p>Calculate the value of a part by using knowledge of division and division facts</p> <p>Calculate the value of a part by connecting knowledge of division and division facts with finding a fraction of a quantity</p> <p>Find fractions of quantities using knowledge of division facts with increasing fluency</p> | <p>Subtract fractions from a whole by converting the whole to a fraction</p> <p>Represent a whole as a fraction in different ways and use this to solve problems involving subtraction</p> <p>Make compound shapes by joining two polygons in different ways (same parts, different whole)</p> <p>Investigate different ways of composing and decomposing a polygon (same whole, different parts)</p> <p>Draw polygons on isometric paper</p> <p>Make and draw compound shapes with and without parallel and perpendicular sides</p> <p>Identify parallel and perpendicular lines</p> |
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| | <p>Measure mass from zero up to 1kg using grams</p> <p>Measure mass from zero above 1kg using whole kg and grams</p> <p>Measure volume from zero up to 1 litre using ml</p> <p>Measure volume from zero above 1 litre using whole litres and ml</p> <p>Estimate mass in grams and volume in ml</p> <p>Estimate a mass/volume, measure a mass/volume and record in a table</p> | <p>rearrange equations before solving</p> | <p>Identify the minuend and the subtrahend in column subtraction</p> <p>Explain the column subtraction algorithm</p> <p>Subtract from a 2-digit number using column subtraction with exchanging from tens to ones</p> <p>Subtract from a 3-digit number using column subtraction with exchanging</p> <p>Evaluate the efficiency of strategies for subtraction</p> | | <p>Make and draw triangles on circular geoboards</p> <p>Make and draw quadrilaterals on circular geoboards</p> <p>Draw shapes with given properties on a range of geometric grids</p> <p>Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</p> <p>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</p> <p>Know the number of seconds in a minute and the number of days in</p> |
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| | | | | | <p>each month, year and leap year</p> <p>Compare durations of events [for example to calculate the time taken by particular events or tasks]</p> |
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Year 4

Count backwards through zero, including negative numbers

Recognise place value in four-digit numbers

Round any number to the nearest 10, 100 or 1000

Know tables up to 12×12

Use place value and number facts to carry out mental calculations

Use factor pairs and commutativity in mental calculations

Use short multiplication method

Recognise and use hundredths

Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$

Divide one- or two-digit numbers by 10 and 100, using tenths and hundredths

Round decimals with one decimal place to the nearest whole number

Compare numbers up to two decimal places 13 Convert between different units of metric measurement, including money

Find the area of rectilinear shapes by counting squares

Solve problems converting units of time

Compare and classify shapes, including quadrilaterals and triangles

Complete a simple symmetric figure with respect to a specific line of symmetry.

Describe positions on a 2-D grid using co-ordinates

Describe translations using a given unit to the left/right and up/down

Interpret and present discrete and continuous data on appropriate graphs



| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| <p>Identify the addends and the sum in column addition</p> <p>Use their knowledge of place value to correctly lay out column addition</p> <p>Add a pair of 2-digit numbers using column addition</p> <p>Add using column addition</p> <p>Use their knowledge of column addition to solve problems</p> <p>Add a pair of 2-digit numbers using column addition with regrouping in the ones column</p> <p>Add a pair of 2-digit numbers using column addition with regrouping in the tens column</p> | <p>A regular polygon has sides that are all the same length and interior angles that are all equal in size</p> <p>Perimeter is the distance around the edge of a two-dimensional shape</p> <p>Different shapes can have the same perimeter</p> <p>Perimeter is measured in units of length and can be found by counting units</p> <p>Perimeter can be calculated by adding together the side lengths of a 2D shape</p> <p>The perimeter of a rectangle can be calculated by addition and multiplication</p> <p>Know unknown side lengths can be calculated</p> | <p>Pupils represent counting in sevens as the 7 times table</p> <p>Explain the relationship between adjacent multiples of seven</p> <p>Use their knowledge of the 7 times table to solve problems</p> <p>Identify patterns of odd and even numbers in the times tables</p> <p>Represent a square number</p> <p>Use knowledge of divisibility rules to solve problems</p> <p>Explain what each factor represents in a multiplication equation</p> <p>Explain how each part of a multiplication and</p> | <p>Explain the relationship between multiplying a number by 100 and multiples of 100</p> <p>Explain why two zeros can be placed after the final digit of a single-digit number when we multiply it by 100</p> <p>Explain why two zeros can be placed after the final digit of a two-digit number when we multiply it by 100</p> <p>Explain why the last two zeros can be removed from a three-digit multiple of 100 when we divide it by 100</p> <p>Explain why the last two zeros can be removed from a four-digit multiple of 100 when we divide it by 100</p> | <p>Identify a whole and the parts that make it up</p> <p>Explain why a part can only be defined when in relation to a whole</p> <p>Identify the number of equal or unequal parts in a whole</p> <p>Identify equal parts when they do not look the same</p> <p>Explain the size of the part in relation to the whole</p> <p>Construct a whole when given a part and the number of parts</p> <p>Explain how to express quantities made up of both whole numbers and a fractional part</p> <p>Explain how a quantity made up of whole</p> | <p>Complete a symmetrical pattern</p> <p>Compose symmetrical shapes from two congruent shapes</p> <p>Investigate lines of symmetry in 2D shapes by folding paper shape cut-outs</p> <p>Find lines of symmetry in 2D shapes using a mirror</p> <p>Reflect polygons in a line of symmetry</p> <p>Reflect polygons that are dissected by a line of symmetry</p> <p>Read, write and convert time between analogue and digital 12- and 24-hour clocks</p> <p>Solve problems involving converting from hours to minutes; minutes to</p> |



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| <p>Add using column addition with regrouping</p> <p>Use known facts and strategies to accurately and efficiently calculate and check column addition</p> <p>Use their knowledge of column addition to solve problems</p> <p>Identify the minuend and the subtrahend in column subtraction</p> <p>Subtract using column subtraction</p> <p>Subtract from a 2-digit number using column subtraction with exchanging from tens to ones</p> <p>Subtract from a 3-digit number using column subtraction with exchanging from hundreds to tens (1)</p> <p>Subtract from a 3-digit number using a column</p> | <p>from perimeter and known side lengths</p> <p>Know the perimeter of a regular polygon can be calculated by multiplication</p> <p>know the side length of a regular polygon can be calculated by division where the perimeter is known</p> <p>Represent counting in threes as the three times table</p> <p>Explain the relationship between adjacent multiples of three</p> <p>Use knowledge of the three times table to solve problems</p> <p>Represent counting in sixes as the six times table</p> <p>Explain the relationship between adjacent multiples of six</p> | <p>division equation relates to a story</p> <p>Explain where zero can be part of a multiplication or division expression and the impact it has</p> <p>Partition one of the factors in a multiplication equation in different ways using representations</p> <p>Partition one of the factors in a multiplication equation in different ways using representations</p> <p>Explain which is the most efficient factor to partition to solve a multiplication problem</p> <p>Use knowledge of distributive law to solve two part addition and subtraction problems, efficiently</p> <p>Use knowledge of distributive law to</p> | <p>Use knowledge of the composition of 100 to multiply by 100 in different ways</p> <p>Use knowledge of the composition of 100 to divide by 100 in different ways</p> <p>Explain how making a factor 10 times the size affects the product</p> <p>Explain how making the dividend 10 times the size affects the quotient</p> <p>Explain how making a factor 100 times the size affects the product</p> <p>Explain how making the dividend 100 times the size affects the quotient</p> <p>Scale known multiplication facts by 100</p> <p>Scale division derived from multiplication facts by 100</p> | <p>numbers and a fractional part is composed</p> <p>Compose and decompose quantities made of whole numbers and fractional parts</p> <p>Accurately label a range of number lines and explain the meaning of each part</p> <p>Identify numbers on marked but unlabelled number lines</p> <p>Estimate the position of numbers on a number line using fraction sense</p> <p>Compare and order mixed numbers using fraction sense</p> <p>Compare and order mixed numbers when the whole number is the same</p> <p>Compare and order mixed numbers when the whole number and the</p> | <p>seconds; years to months; weeks to days.</p> <p>Interpret a division story when there is a remainder and represent it with an equation (i)</p> <p>Interpret a division story when there is a remainder and represent it with an equation (ii)</p> <p>Interpret a division story when there is a remainder and represent it with an equation (iii)</p> <p>Explain how the remainder relates to the divisor in a division equation</p> <p>Explain when there will and will not be a remainder in a division equation</p> <p>Use knowledge of division equations and remainders to solve problems</p> |
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| <p>subtraction with exchanging from hundreds to tens</p> <p>Evaluate the efficiency of strategies for subtraction</p> <p>Explain how many tens, hundreds and ones 1,000 is composed of</p> <p>Use knowledge of 1,000 to explain common measure conversions</p> <p>Use knowledge of 1,000 to solve problems</p> <p>Use different strategies to add multiples of 100</p> <p>Use different strategies to subtract multiples of 100</p> <p>Use knowledge of calculation and common measure conversions to solve problems</p> <p>Compose and decompose four-digit numbers in different ways</p> | <p>Use knowledge of the six times table to solve problems</p> <p>Use known facts from the five times table to solve problems involving the six times table</p> <p>Explain the relationship between multiples of three and multiples of six</p> <p>Use knowledge of the relationships between the three and six times tables to solve problems</p> <p>Represent counting in nines as the nine times table</p> <p>Explain the relationship between adjacent multiples of nine (1)</p> <p>Explain the relationship between adjacent multiples of nine (2)</p> <p>Use known facts from the ten times table to solve</p> | <p>calculate products beyond known times tables facts</p> <p>Explain the relationship between multiplying a number by 10 and multiples of 10</p> <p>Explain why a zero can be placed after the final digit of a single-digit number when we multiply it by 10</p> <p>Explain why a zero can be placed after the final digit of a two-digit number when we multiply it by 10</p> <p>Explain why the final digit zero can be removed from a two-digit multiple of 10, when we divide by 10</p> <p>Explain why the final digit zero can be removed from a three-digit multiple of 10, when we divide by 10</p> | <p>Give directions from one position to another on a grid</p> <p>Move objects including polygons on a grid according to directions, and mark the new position</p> <p>Describe translations of polygons drawn on a square grid</p> <p>Draw polygons specified by translations</p> <p>Mark points specified as a translation from the origin</p> <p>Mark the position of points specified by coordinates in the first quadrant of a coordinate grid, and write coordinates for already-marked points</p> <p>Draw polygons specified by coordinates in the first quadrant</p> | <p>numerator of the fractional part is the same</p> <p>Make efficient choices about the order they solve an addition problem in</p> <p>Make efficient choices about the order they solve a subtraction problem in</p> <p>Express a quantity as a mixed number and an improper fraction (quarters)</p> <p>Convert a quantity from an improper fraction to a mixed number (quarters)</p> <p>Express and convert a quantity from an improper fraction to a mixed number (fifths)</p> <p>Explain how an improper fraction is converted into a mixed number (any unit)</p> | <p>Interpret the answer to a division calculation to solve a problem</p> <p>Interpret the answer to a division calculation to solve a problem</p> |
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| <p>Use strategies to make solving calculations more efficient</p> <p>Compare and order four-digit numbers</p> <p>Calculate efficiently by using knowledge of place value, addition and subtraction</p> <p>Explain what rounding is</p> <p>Round a four-digit number to the nearest thousand</p> <p>Round a four-digit number to the nearest hundred and ten</p> <p>Round a four-digit number to the nearest thousand, hundred and ten</p> <p>Add up to 3 four-digit numbers using a column addition</p> <p>Subtract four-digit numbers using a column subtraction</p> | <p>problems involving the nine times table</p> <p>Explain the relationship between multiples of three and multiples of nine</p> <p>Explain the relationship between pairs of three and nine times table facts that have the same product</p> <p>Explain the relationship between pairs of three and nine times table facts that have the same product</p> <p>Use the divisibility rules for divisors of three</p> <p>Use the divisibility rules for divisors of six (1)</p> <p>Use the divisibility rules for divisors of six (2)</p> | | <p>Translate polygons in the first quadrant</p> | <p>Explain how a mixed number is converted into an improper fraction</p> <p>Add mixed numbers</p> <p>Subtract a proper fraction from a mixed number (converting to an improper fraction first)</p> <p>Subtract a mixed number from a mixed number and explain which strategy is most efficient</p> <p>Use knowledge of subtraction to choose correct and efficient approaches when subtracting mixed numbers</p> | |
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| <p>Use strategies to make solving calculations more efficient</p> <p>Explain how many '100s' and '200s', 1,000 is composed of</p> <p>Explain how many '500s' and '250s', 1,000 is composed o</p> | | | | | |
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Year 5

- 1 Interpret negative numbers in context
- 2 Read Roman numerals to 1000, including years
- 3 Recognise and use square and cube numbers, and know the notation
- 4 Use rounding to check answers and determine accuracy
- 5 Identify multiples and factors, including finding factor pairs and common factors
- 6 Use vocabulary: prime numbers, prime factors and composite numbers
- 7 Know prime numbers up to 19
- 8 Multiply and divide numbers by 10, 100 or 1000, including decimals
- 9 Use long multiplication for multiplying numbers of up to 4 digits by one or two digits
- 10 Divide numbers using standard written short division
- 11 Convert between mixed numbers and improper fractions
- 12 Compare and order fractions whose denominators are multiples of the same number
- 13 Identify, name and write equivalent fractions including tenths and hundredths
- 14 Add and subtract fractions with denominators that are multiples of the same number
- 15 Multiply proper fractions and mixed numbers by whole numbers with support
- 16 Read and write decimal numbers as fractions
- 17 Round decimals with 2 decimal places to whole number or to one decimal place
- 18 Read, write, order and compare numbers with up to 3 decimal places
- 19 Recognise % symbol and explain as a fraction with denominator 100 (parts out of 100)
- 20 Understand and use common approximate conversions between metric and imperial
- 21 Measure and calculate the perimeter of composite rectilinear shapes
- 22 Calculate the area of rectangles, and estimate the area of irregular shapes
- 23 Use the properties of rectangles to find missing lengths and angles
- 24 Distinguish between regular and irregular polygons
- 25 Identify 3-d shapes from 2-d representations
- 26 Know angles are measured in degrees and compare acute, obtuse and reflex angles
- 27 Draw and measure angles to the nearest degree
- 28 Identify angles at a point, in a turn and on a straight line



| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| <p>Identify tenths as part of a whole</p> <p>Describe and represent tenths as a decimal fraction</p> <p>Count in tenths in different ways</p> <p>Describe and write decimal numbers with tenths in different ways</p> <p>Compare and order decimal numbers with tenths</p> <p>Explain that decimal numbers with tenths can be composed additively</p> <p>Explain that decimal numbers with tenths can be composed multiplicatively</p> <p>Use their knowledge to calculate with decimal</p> | <p>Represent a change story using addition and subtraction symbols</p> <p>Interpret numbers greater than and less than zero in different contexts</p> <p>Read and write negative numbers</p> <p>Explain how the value of a number relates to its position from zero</p> <p>Identify and place negative numbers on a number line</p> <p>Interpret sets of negative and positive numbers in a range of contexts</p> <p>Use their knowledge of positive and negative numbers to calculate intervals</p> | <p>Explain what area is and can measure using counting as a strategy (1)</p> <p>Explain what area is and can measure using counting as a strategy (2)</p> <p>Explain how to make different shapes with the same area</p> <p>Explain how to compare the area of different shapes</p> <p>Measure the area of flat shapes area using square centimetres</p> <p>Measure the area of flat shapes area using square metres</p> <p>Calculate the area of a rectangle using multiplication</p> | <p>Explain how to use known multiplication facts and unitising to multiply decimal fractions by whole numbers (tenths)</p> <p>Explain how to use known multiplication facts and unitising to multiply decimal fractions by whole numbers (hundredths)</p> <p>Use their knowledge of multiplying decimal fractions by whole numbers to solve measures problems</p> <p>Explain the relationship between multiplying by 0.1 dividing by 10</p> <p>Explain the relationship between multiplying by 0.01 dividing by 100</p> <p>Explain how to use multiplying by 10 or 100</p> | <p>Explain the relationship between repeated addition of a proper fraction and multiplication of fractions (unit fractions)</p> <p>Explain the relationship between repeated addition of a proper fraction and multiplication of fractions (non-unit fractions)</p> <p>Multiply a proper fraction by a whole number (within a whole)</p> <p>Multiply a proper fraction by a whole number (greater than a whole)</p> <p>Multiply an improper fraction by a whole number</p> <p>Multiply a mixed number by a whole number</p> | <p>Explain the relationship within families of equivalent fractions</p> <p>Use their knowledge of equivalent fractions to solve problems</p> <p>Explain and represent how to divide 1 into different amounts of equal parts</p> <p>Identify and describe patterns within the number system</p> <p>Use their knowledge of common equivalents to compare fractions with decimals</p> <p>Practise recalling common fraction-decimal equivalents</p> <p>Apply memorised unit conversions to convert between units of measure (larger to smaller units -</p> |



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| <p>numbers within and across one whole</p> <p>Use their knowledge to calculate with decimal numbers using mental methods</p> <p>Use their knowledge to calculate with decimal numbers using column addition and subtraction</p> <p>Use representations to round a decimal number with tenths to the nearest whole number</p> <p>Identify hundredths as part of a whole</p> <p>Describe and represent hundredths as a decimal fraction</p> <p>Describe and write decimals numbers with hundredths in different ways</p> <p>Compare and order decimal numbers with hundredths</p> | <p>Explain how negative numbers are used on a coordinate grid</p> <p>Use their knowledge of positive and negative numbers to interpret graphs</p> <p>Multiply a two-digit number by a single-digit number using partitioning and representations (no regroup)</p> <p>Multiply a two-digit number by a single-digit number using partitioning and representations (one regroup)</p> <p>Multiply a two-digit number by a single-digit number using partitioning and representations (two regroup)</p> <p>Multiply a two-digit number by a single-digit number using partitioning</p> <p>Multiply a two-digit number by a single-digit</p> | <p>Calculate the area of rectilinear shapes</p> <p>Use their knowledge of area to solve problems</p> <p>Compare and describe lengths by using their knowledge of multiplication</p> <p>Use their knowledge of multiplication to solve comparison and change problems</p> <p>Compare and describe lengths by using their knowledge of division</p> <p>Use their knowledge of division to solve comparison and change problems</p> <p>Compare and describe measurements by using their knowledge of multiplication and division (mass/capacity/time)</p> <p>Compare and describe measurements by using</p> | <p>to multiply one-digit numbers by decimal fractions (1)</p> <p>Explain how to use multiplying by 10 or 100 to multiply one-digit numbers by decimal fractions (2)</p> <p>Explain how to use the size of the multiplier to predict the size of the product compared to the multiplicand</p> <p>Explain how to use multiplying by 10 or 100 to divide decimal fractions by one-digit numbers</p> <p>Explain how to use multiplying by 10 or 100 to divide decimal fractions by one-digit numbers (2)</p> <p>Explain what 'volume' is using a range of contexts</p> <p>Describe the units used to measure volume</p> | <p>(product is within a whole)</p> <p>Multiply a mixed number by a whole number (product is greater than a whole)</p> <p>Find a unit fraction of a quantity</p> <p>Explain the relationship between finding a fraction of a quantity and multiplying a whole number by a unit fraction</p> <p>Explain the relationship between dividing by a whole number and multiplying a whole number by a unit fraction</p> <p>Use their knowledge of multiplying a whole number by a unit fraction to solve problems</p> <p>Find a non-unit fraction of a quantity (mental calculation)</p> | <p>whole number conversions)</p> <p>Apply memorised unit conversions to convert between units of measure (smaller to larger units - whole number conversions)</p> <p>Convert from and to fraction and decimal fraction quantities of larger units</p> <p>Derive common conversions over 1</p> <p>Carry out conversions that correspond to 100 parts</p> <p>Solve measures problems involving different units</p> <p>Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints</p> |
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| <p>Explain that decimal numbers with hundredths can be partitioned in different ways</p> <p>Use their knowledge of decimal place value to convert between and compare metres and centimetres</p> <p>Explain that different lengths can be composed additively and multiplicatively</p> <p>Use their knowledge of decimal place value to solve problems in different contexts</p> <p>Use their knowledge to calculate with decimal numbers up to and bridging one tenth</p> <p>Use their knowledge to calculate with decimal numbers using column addition and subtraction</p> | <p>number using expanded multiplication (no regroup)</p> <p>Multiply a two-digit number by a single-digit number using short multiplication (no regroup)</p> <p>Multiply a two-digit number by a single-digit number using expanded multiplication (regrouping ones to tens)</p> <p>Multiply a two-digit number by a single-digit number using short multiplication (regrouping ones to tens)</p> <p>Multiply a two-digit number by a single-digit number using expanded multiplication (regrouping tens to hundreds)</p> <p>Multiply a two-digit number by a single-digit number using short</p> | <p>their knowledge of multiplication and division (mass/capacity/time) (2)</p> <p>Describe the changes in measurements using their knowledge of multiplication and division</p> <p>Use their knowledge of multiplication and division to solve comparison and change problems</p> <p>Explain the effect of multiplying and dividing a number by 10, 100 and 1,000 (1)</p> <p>Explain the effect of multiplying and dividing a number by 10, 100 and 1,000 (2)</p> <p>Explain how to multiply and divide a number by 10, 100 and 1,000 (first 'number' two or more non-zero digits)</p> | <p>Explain how to calculate the volume of a cuboid</p> <p>Explain what a cube number is</p> <p>Use their knowledge of calculating volume to solve problems in a range of contexts</p> <p>Explain how to calculate the volume of compound shapes</p> <p>Explain the use of the commutative and distributive laws when multiplying three or more numbers</p> <p>Explain the reasons for changing two-factor multiplication calculations to three-factor multiplications</p> <p>Explain what a factor is and how to use arrays and multiplication/division facts to find them</p> | <p>Find a non-unit fraction of a quantity (written calculation)</p> <p>Multiply a whole number by a proper fraction</p> <p>Explain when a calculation represents scaling down and when it represents repeated addition</p> <p>Find the whole when the size of a unit fraction is known</p> <p>Find a unit fraction when the size of a non-unit fraction is known</p> <p>Find the whole when the size of a non-unit fraction is known</p> <p>Find the unit fraction when the size of a non-unit fraction is known</p> <p>Use representations to describe and compare two fractions (1/4 and 3/12)</p> | <p>Convert between miles and kilometres</p> <p>Solve problems involving converting between units of time</p> <p>Compare the size of angles where there is a clear visual difference</p> <p>Use the terms acute, obtuse and reflex when describing the size of angles or amount of rotation with relation to right angles</p> <p>Use a unit called degrees ($^{\circ}$) as a standard unit to measure angles</p> <p>Estimate the size of angles in degrees using angle sets</p> <p>Measure the size of angles accurately using a protractor</p> |
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| <p>Round a decimal number with hundredths to the nearest tenth</p> <p>Round a decimal number with hundredths to the nearest whole number</p> <p>Read and write numbers with up to 3 decimal places</p> <p>Compare and order numbers with up to 3 decimal places</p> <p>Explain and represent whole pounds as a quantity of money</p> <p>Explain and represent whole pounds and pence as a quantity of money</p> <p>Explain how to compare amounts of money</p> <p>Convert quantities of money between pounds and pence</p> <p>Use their knowledge of addition to efficiently add commonly used prices</p> | <p>multiplication (regrouping tens to hundreds)</p> <p>Multiply a two-digit number by a single-digit number using both expanded and short multiplication (two regroups)</p> <p>Use estimation to support accurate calculation</p> <p>Multiply a three-digit number by a single-digit number using partitioning and representations</p> <p>Multiply a three-digit number by a single-digit number using partitioning</p> <p>Multiply a three-digit number by a single-digit number using expanded and short multiplication (no regroups)</p> <p>Multiply a three-digit number by a single-digit number using expanded and short multiplication (one regroup)</p> | <p>Use their knowledge of multiplication and division by 10/100/1,000 to convert between units of measure (length)</p> <p>Use their knowledge of multiplication and division by 10/100/1,000 to convert between units of measure (mass and capacity)</p> | <p>Explain how to systematically find all factors of a number and how they know when they have found them all</p> <p>Use a complete list of factors to explain when a number is a square number</p> <p>Explain how to identify a prime number or a composite number</p> <p>Explain how to identify a common factor or a prime factor of a number</p> <p>Explain how to identify a multiple or common multiple of a number</p> <p>Use knowledge of properties of number to solve problems in a range of contexts</p> <p>Explain how to use the factor pairs of '100' to solve calculations efficiently</p> | <p>Use representations to describe and compare two fractions (1/5 and 5/10)</p> <p>Use representations to describe and compare two fractions (pouring context)</p> <p>Correctly use the language of equivalent fractions</p> <p>Explain the vertical relationship between numerators and denominators within equivalent fractions (1/5, 1/3 and equivalent)</p> <p>Use their knowledge of the vertical relationship to solve equivalent fractions problems</p> <p>Explain the horizontal relationship between numerators and denominators across equivalent fractions (1/5, 1/3 and equivalent)</p> | |
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| <p>Use their knowledge of subtraction to calculate the change due when paying whole pounds or notes</p> <p>Use and explain the most efficient strategies when adding quantities of money</p> <p>Use and explain the most efficient strategies when subtracting quantities of money</p> <p>Find the change when purchasing several items</p> <p>Use the most efficient and reliable strategy to find the change when purchasing several items</p> | <p>Multiply a three-digit number by a single-digit number using expanded and short multiplication (multiple regroupings)</p> <p>Use estimation to support accurate calculation</p> <p>Divide a two-digit number by a single-digit number using partitioning and representations (no remainders, no exchanging)</p> <p>Divide a two-digit number by a single-digit number using partitioning and representations</p> <p>Divide a two-digit number by a single-digit number using short division (with exchanging)</p> <p>Divide a two-digit number by a single-digit number using short division (with exchanging and remainders)</p> | | | | |
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| | <p>Divide a three-digit number by a single-digit number using partitioning and representations (no exchanging, no remainders)</p> <p>Divide a three-digit number by a single-digit number using short division</p> <p>Solve short division problems accurately when the hundreds digit is smaller than the divisor</p> <p>Use efficient strategies of division to solve problems</p> | | | | |
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Year 6

- 1 Use negative numbers to calculate intervals across zero
- 2 Divide numbers using long division, interpreting the remainders as appropriate
- 3 Use order of operations to carry out calculations
- 4 Use common factors to simplify fractions
- 5 Compare and order fractions of any size
- 6 Add and subtract fractions with different denominators and mixed numbers
- 7 Multiply simple pairs of proper fractions
- 8 Divide proper fractions by whole numbers
- 9 Calculate decimal fraction equivalents for simple fractions
- 10 Multiply a number with up to two decimal places by whole numbers
- 11 Use written division with answers of up to two decimal places
- 12 Solve problems involving the calculation of percentages
- 13 Recall and use equivalences between fractions, decimals and percentages
- 14 Solve problems using ratio using multiplication and division facts
- 15 Solve problems involving similar shapes where the scale factor is known
- 16 Solve problems involving proportion, using knowledge of fractions and multiples
- 17 Use simple formulae
- 18 Generate and describe linear number sequences
- 19 Express missing number problems algebraically
- 20 Convert units of measure between smaller and larger units including miles and kilometres
- 21 Calculate the area of parallelograms and triangles
- 22 Calculate and compare volume of cubes and cuboids
- 23 Illustrate and name parts of a circle
- 24 Finding missing angles in triangles, quadrilaterals and regular polygons
- 25 Recognise vertically opposite angles and find missing angles
- 26 Describe positions on the full co-ordinate grid
- 27 Translate shapes on a co-ordinate grid and reflect in the axes
- 28 Construct and interpret pie charts pie charts Find the mean as an average.



| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
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| <p>Explain how a combination of different parts can be equivalent to the same whole and can represent this in an expression</p> <p>Identify structures within stories and use their knowledge of structures to create stories</p> <p>Identify the missing part using their knowledge of part whole relationships and structures</p> <p>Interpret and represent a part-whole problem with 3 addends using a model</p> <p>Create stories to correctly match a structure presented in a model</p> <p>Use their knowledge of additive structures to solve problems</p> <p>Calculate the value of a missing part</p> | <p>Use representations to identify and explain patterns in powers of 10</p> <p>Compose seven or eight-digit numbers using common intervals</p> <p>Use their knowledge of the composition of up to eight-digit numbers to solve problems</p> <p>Explain how to read numbers with up to seven digits efficiently</p> <p>Recognise and create numbers that contain place-holding zeros</p> <p>Determine the value of digits in numbers up to tens of millions</p> <p>Explain how to compare up to eight-digit numbers</p> <p>Use their knowledge of the composition of seven-</p> | <p>Explain why the product stays the same when one factor is doubled and the other is halved</p> <p>Explain the effect on the product when scaling the factors by the same amount</p> <p>Use their knowledge of equivalence when scaling factors to solve problems</p> <p>Explain the effect on the quotient when scaling the dividend and divisor by 10</p> <p>Explain the effect on the quotient when scaling the dividend and divisor by the same amount</p> <p>Explain how to multiply a three-digit by a two-digit number</p> <p>Explain how to accurately use the method of long multiplication to multiply two, two-digit numbers</p> | <p>Explain how to write a fraction in its simplest form</p> <p>Reason and apply their knowledge of how to write a fraction in its simplest form</p> <p>Use their knowledge of how to write a fraction in its simplest form when solving addition and subtraction problems</p> <p>Use their knowledge of how to write a fraction in its simplest form when solving addition and subtraction problems</p> <p>Use their knowledge of how to write a fraction in its simplest form when solving multiplication problems</p> <p>Explain, using an image, how to add related fractions (unit fractions)</p> | <p>Interpret and construct pie charts and line graphs and use these to solve problems</p> <p>Calculate and interpret the mean as an average</p> <p>Describe the relationship between two factors (in a ratio context)</p> <p>Explain how to use multiplication and division to calculate unknown values (two variables)</p> <p>Explain how to use multiplication and division to calculate unknown values (three variables)</p> <p>Explain how to use a ratio grid to calculate unknown values</p> <p>Explain how to use multiplication to solve correspondence problems</p> | <p>Explain how to balance equations with addition expressions</p> <p>Explain how to balance equations with subtraction expressions</p> <p>Explain how to balance equations with addition or subtraction expressions</p> <p>Explain how to balance equations with addition and subtraction expressions</p> <p>Use their knowledge of balancing equations to solve problems</p> <p>Compare the structure of problems with one or two unknowns</p> <p>Compare the structure of problems with two unknowns</p> |



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| <p>Calculate the value of a missing part</p> <p>Correctly represent an equation in a part-whole model</p> <p>Explain how adjusting both addends affects the sum (2 digit numbers)</p> <p>Explain how adjusting both addends affects the sum (decimal fractions)</p> <p>Use the 'same sum' rule to balance equations</p> <p>Use the 'same sum' rule to balance equations with an unknown</p> <p>Explain how adjusting one addend affects the sum</p> <p>Solve addition calculations mentally by using known facts</p> <p>Solve calculations with missing addends</p> <p>Explain how adjusting both the minuend and subtrahend</p> | <p>digit numbers to solve problems</p> <p>Add and subtract mentally without bridging a boundary (only one and more than one digit changes)</p> <p>Add numbers whilst crossing the millions boundary</p> <p>Subtract numbers whilst crossing the millions boundary (multiples of 100,000 and different powers of 10)</p> <p>Explain how a seven-digit number can be composed and decomposed into parts</p> <p>Identify and explain a pattern in a counting sequence</p> <p>Identify numbers with up to seven digits on marked number lines</p> <p>Estimate the value and position of numbers on</p> | <p>(no regrouping of ones to tens)</p> <p>Explain how to accurately use the method of long multiplication (with regrouping of ones to tens)</p> <p>Explain how to accurately use the method of long multiplication (with regrouping of ones to tens & tens to hundreds)</p> <p>Explain how to accurately use the method of long multiplication to multiply a three-digit by a two-digit number</p> <p>Explain how to accurately use the method of long multiplication to multiply a four-digit by a two-digit number</p> <p>Explain how to use the associative law to multiply efficiently</p> <p>Explain when it is more efficient to use long</p> | <p>Explain what is meant by 'related fractions'</p> <p>Explain, without using an image, how to add related fractions</p> <p>Use their knowledge of adding related fractions to solve problems in a range of contexts</p> <p>Explain, with and without using an image, how to subtract related fractions (unit fractions)</p> <p>Use their knowledge of adding and subtracting related fractions to solve problems in a range of contexts</p> <p>Explain, with and without using an image, how to add and subtract related fractions (non-unit fractions)</p> <p>Explain, with and without using an image, how to add and subtract related fractions (non-unit</p> | <p>Explain how and why scaling is used to make and interpret maps</p> <p>Use their knowledge of multiplication and division to solve scaling problems in a range of contexts</p> <p>Identify and describe the relationship between two shapes using scale factors (squares)</p> <p>Identify and describe the relationship between two shapes using scale factors and ratios (regular polygons)</p> <p>Identify and describe the relationship between two shapes using scale factors and ratios (irregular polygons)</p> | <p>Represent the structure of contextual problems with two unknowns</p> <p>Represent a problem with two unknowns using a bar model</p> <p>Explain why sometimes there is only one solution to a sum and difference problem</p> <p>Explain why sometimes there is only one solution to a sum and multiple problem</p> <p>Explain the values a part-whole model could represent</p> <p>Use a bar model to visualise how to solve a problem with two unknowns</p> <p>Use diagrams to explain how to solve a spatial problem</p> |
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| <p>by the same amount affects the difference</p> <p>Explain how using the 'same difference' rule can make mental calculation easier (1)</p> <p>Explain how using the 'same difference' rule can make written calculation easier (2)</p> <p>Use the 'same difference' rule to balance equations</p> <p>Explain how increasing or decreasing the minuend affects the difference (1)</p> <p>Explain how increasing or decreasing the minuend affects the difference (2)</p> <p>Solve subtraction calculations mentally by using known facts</p> <p>Explain how adjusting the minuend can make mental calculation easier</p> <p>25 Pupils explain how adjusting the subtrahend affects the difference</p> | <p>unmarked or partially marked number lines</p> <p>Explain why we round and how to round seven-digit numbers to the nearest million</p> <p>Explain how to round seven-digit numbers to the nearest hundred thousand</p> <p>Explain how to round up to seven-digit numbers to any power of 10 in context</p> <p>Identify and explain the most efficient way to solve a calculation</p> <p>Add and subtract numbers with up to seven digits using column addition and subtraction</p> <p>Explore and explain different written and mental strategies to solving addition and subtraction problems</p> | <p>multiplication or factorising to multiply by two-digit numbers</p> <p>Explain how to use accurately the methods of short and long division (two and three-digit number by multiples of 10)</p> <p>Explain how to use accurately the method of long division with and without remainders (two-digit by two-digit numbers)</p> <p>Use knowledge of long division to solve problems in a range of contexts (with and without remainders)</p> <p>Explain how to use a ratio chart to solve efficiently: short division</p> <p>Explain how to use a ratio chart to solve efficiently: long division</p> | <p>fractions that bridge the whole)</p> <p>Use their fraction sense to fraction addition, subtraction and comparison</p> <p>Explain how to add or subtract non-related fractions with different denominators</p> <p>Use their knowledge of adding or subtracting non-related fractions with different denominators to solve problems in a range of contexts (non related fractions)</p> <p>Explain how to compare pairs of non-related fractions (converting to common denominators)</p> <p>Explain how to compare pairs of non-related fractions (using fraction sense)</p> <p>Explain how to compare pairs of non-related</p> | | <p>Explain how to represent an equation with a bar model</p> <p>Solve problems with two unknowns in a range of contexts</p> <p>Systematically solve problems with two unknowns using 'trial and improvement' (one and several solutions)</p> <p>Explain how I know I have found all possible solutions to problems with two unknowns</p> <p>Explain how to balance an equation with two unknowns</p> <p>Systematically solve problems with two unknowns using 'trial and improvement' (one, several and infinite solutions)</p> <p>Explain how addition and subtraction can help to</p> |
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| <p>Explain how increasing or decreasing the subtrahend affects the difference</p> <p>Calculate the difference using their knowledge of an adjusted subtrahend</p> <p>Calculate the difference using their knowledge of an adjusted subtrahend</p> <p>Explain how ten thousand can be composed</p> <p>Explain how one hundred thousand can be composed</p> <p>Read and write numbers up to one million (1)</p> <p>Read and write numbers up to one million (2)</p> <p>Identify and place the position of five-digit multiple of one thousand numbers, on a marked, but unlabelled number line</p> <p>Identify and place the position of six-digit multiple of one thousand numbers,</p> | <p>Solve addition and subtraction problems and explain whether a mental or written strategy would be most efficient</p> <p>Use knowledge of shape properties to draw, sketch and identify shapes</p> <p>Know the same 3D shape can be composed from different 2D nets</p> <p>Know when a 2D shape is decomposed and the parts rearranged, the area remains the same.</p> <p>Know the area of a compound shape is therefore equal to the total of the areas of the constituent parts</p> <p>Know any parallelogram can be decomposed and the parts rearranged to form a rectangular parallelogram</p> | <p>Explain how to use a ratio chart to solve efficiently: long division (II)</p> <p>Explain how to use accurately the method of long division with and without remainders (three-digit by two-digit, four-digit by two-digit numbers)</p> <p>Use long division with decimal remainders (1 decimal place)</p> <p>Use long division with fraction remainders</p> <p>Use long division with decimal remainders (2 decimal places)</p> <p>Use knowledge of the best way to interpret and represent remainders from a range of division contexts</p> <p>Explain how and why a product changes when a factor changes multiplicatively</p> | <p>fractions (using common numerators)</p> <p>Explain which method for comparing non-related fractions is most efficient</p> <p>Explain how to multiply two unit fractions</p> <p>22 Pupils explain how to multiply two non-unit fractions</p> <p>Explain how to divide a unit fraction by a whole number</p> <p>Explain how to divide a non-unit fraction by a whole number</p> <p>Explain when and how to divide efficiently a fraction by a whole number</p> <p>Explain what percent means</p> <p>27 Pupils explain how to represent a percentage in different ways</p> | | <p>solve multiplication problems efficiently</p> <p>Explain how addition and subtraction can help to solve multiplication problems efficiently (II)</p> <p>Explain how the distributive law applies to multiplication expressions with a common factor (addition)</p> <p>Use their knowledge of the distributive law to solve equations including multiplication, addition and subtraction</p> <p>Explain how addition and subtraction can help to solve division problems efficiently</p> <p>Explain how the distributive law applies to division expressions with a common divisor (addition)</p> |
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| <p>on a marked, but unlabelled number line</p> <p>Count forwards and backwards in steps of powers of 10, from any multiple of 1,000</p> <p>Explain that 10,000 is composed of 5,000s 2,500s and 2,000s</p> <p>Explain that 100,000 is composed of 50,000s 25,000s and 20,000s</p> <p>Read scales in graphing and measures contexts, by using their knowledge of the composition of 10,000 and 100,000</p> | <p>Know two congruent triangles can be composed to form a parallelogram</p> <p>Know shapes with the same area can have different perimeters. Shapes with the same perimeters can have different areas</p> <p>Use the relationship between area and side length, and perimeter and side length, to reason about measurements of shapes, including compound shapes</p> | <p>Use their knowledge of multiplicative change to solve problems efficiently (multiplication)</p> <p>Explain how and why a quotient changes when a dividend changes multiplicatively (increase or decrease)</p> <p>Explain how and why a quotient changes when a divisor changes multiplicatively</p> <p>Identify and explain the relationship between divisors and quotients</p> <p>Explain how to calculate the area of a parallelogram</p> <p>Explain how to calculate the area of a triangle</p> <p>Explain why shapes can have the same perimeters but different areas</p> | <p>Explain how to convert percentages to decimals and fractions (with a denominator of 100)</p> <p>Explain how to convert a percentage to a fraction (without denominator of 100)</p> <p>Use their knowledge of fraction-decimal-percentage conversions to solve conversion problems in a range of contexts</p> <p>Use their knowledge of calculating 50%, 10% and 1% of a number to solve problems in a range of contexts</p> <p>Use their knowledge of calculating common percentages of a number to solve problems in a range of contexts</p> <p>Use their knowledge of calculating any percentage of a number</p> | | <p>Explain how the distributive law applies to division expressions with a common divisor (subtraction)</p> <p>Use their knowledge of the distributive law to solve equations including division, addition and subtraction</p> <p>Explain the relationship between the mean and sharing equally</p> <p>Explain how to calculate the mean of a set of data</p> <p>Explain how the mean changes when the total quantity or number of values changes</p> <p>Explain how to calculate the mean when one of the values in the data set is zero or missing</p> <p>Explain how to use the mean to make comparisons between two sets of information</p> |
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| | | <p>Explain why shapes can have the same areas but different perimeters</p> <p>Describe the relationship between scale factors and side lengths of two shapes</p> <p>Describe the relationship between scale factors and perimeters of two shapes</p> <p>Describe positions on the full coordinate grid (all four quadrants)</p> <p>Draw and translate simple shapes on the coordinate plane and reflect them in the axes</p> | <p>to solve problems in a range of contexts</p> <p>Explain how to solve problems where the percentage part and the size of the part is known and the whole is unknown</p> <p>Explain how to solve problems where the known percentage part and the size of the part changes the whole</p> | | <p>Explain when the mean is not an appropriate representation of a set of data</p> |
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